

Volume 3. Air Operator Technical Administration

CHAPTER 1. OPERATIONS SPECIFICATIONS

SECTION 5. OPERATIONS SPECIFICATIONS PART C - AIRPLANE TERMINAL INSTRUMENT PROCEDURES AND AIRPORT AUTHORIZATIONS AND LIMITATIONS

81. GENERAL. Part C is issued to operators who conduct Title 14 of the Code of Federal Regulations (14 CFR) Part 121 or Part 135 operations with fixed wing airplanes. It is not issued to Part 135 operators who conduct only helicopter operations. Instrument Flight Rules (IFR) helicopter operators are issued Part H. Part C is not usually issued to Part 135 on-demand operators who are restricted to Visual Flight Rules (VFR) only operations. In rare situations OpSpec C070 of Part C is issued to Part 135 VFR only operators who are authorized to conduct commuter operations.

83. PART C OPERATIONS SPECIFICATIONS PARAGRAPHS.

OPSPEC/MSPEC C049. DESTINATION AIRPORT ANALYSIS.

A. OpSpec C049 is an optional authorization for 14 CFR Part 135 certificate holders that have been issued OpSpec A057 as an eligible on-demand operator for reducing effective runway length requirements for turbine engine-powered large transport category airplanes that must be met prior to a flight's release, provided certain requirements are met by the operator. MSPEC C049 is an optional authorization part 91K Fractional Ownership program managers to reduce effective runway length requirements for turbine engine-powered large transport category airplanes that must be met prior to a flight's release, provided certain requirements are met by the program manager.

B. *Destination Airport Analysis.* FAA regulations governing operations under 14 CFR parts 91K and 135 provide for reducing effective runway length requirements for turbine engine-powered large transport category airplanes that must be met prior to a flight's release, provided certain requirements are met by the operator. For destination airports, normal landing distance requirements for part 91K and 135 operations are 60% of the available runway length. For alternate airport landing distance requirements, 91 subpart K remains at 60%, while part 135 allows for 70% of the effective runway length. If an operator desires to reduce such requirements below 60% of the available runway length, that operator must meet regulatory requirements in two areas:

- Part 135 Eligible On-demand Operator (OpSpec A057 must be issued) or Part 91K Fractional Ownership Program experience; and
- FAA Approved Destination Airport Analysis program. The Destination Airport Analysis program (DAAP) must address specific regulatory requirements and be approved for use through that operator's MSpecs or OpSpecs, as applicable.

C. *Experience Requirements.* An Eligible On-demand Operator is defined in 14 CFR section 135.4. Fractional Ownership Programs must meet the same requirements and are identified in sections 91.1053 and 91.1055. The requirements include:

(1) An on-demand or fractional ownership program operation that meets the following requirements:

(a) *Two-pilot crew.* The flightcrew must consist of at least two qualified pilots employed or contracted by the certificate holder.

(b) *Flightcrew experience.* The crewmembers must have met the applicable requirements of part 61 of this chapter and have the following experience and ratings:

i. Total flight time for all pilots:

- Pilot in command--A minimum of 1,500 hours.
- Second in command--A minimum of 500 hours.

ii. For multi-engine turbine-powered fixed-wing and powered-lift aircraft, the following FAA certification and ratings requirements:

- Pilot in command--Airline transport pilot and applicable type ratings.
- Second in command--Commercial pilot and instrument ratings.

iii. For all other aircraft, the following FAA certification and rating requirements:

- Pilot in command--Commercial pilot and instrument ratings.
- Second in command--Commercial pilot and instrument ratings.

(c) *Pilot operating limitations.* If the second in command of a fixed-wing aircraft has fewer than 100 hours

of flight time as second in command flying in the aircraft make and model and, if a type rating is required, in the type aircraft being flown, and the pilot in command is not an appropriately qualified check pilot, the pilot in command shall make all takeoffs and landings in any of the following situations:

i. Landings at the destination airport when a Destination Airport Analysis is required by § 135.385(f); and

ii. In any of the following conditions:

- The prevailing visibility for the airport is at or below 3/4 mile.
- The runway visual range for the runway to be used is at or below 4,000 feet.
- The runway to be used has water, snow, slush, ice, or similar contamination that may adversely affect aircraft performance.
- The braking action on the runway to be used is reported to be less than “good.”
- The crosswind component for the runway to be used is in excess of 15 knots.
- Windshear is reported in the vicinity of the airport.
- Any other condition in which the pilot in command determines it to be prudent to exercise the pilot in command’s authority.

(d) *Crew pairing.* Either the pilot in command or the second in command must have at least 75 hours of flight time in that aircraft make or model and, if a type rating is required, for that type aircraft, either as pilot in command or second in command.

D. Deviations. The Administrator may authorize deviations from the total flight time requirements ((a) (2) (i)) [Section 91.1053(a)(2)(i)] or crew pairing requirements ((a) (3)) [Section 91.1055 (a)(3)] if the FAA office that issued the operations specifications or management specifications, as applicable, finds that the crewmember has comparable experience, and can effectively perform the functions associated with the position in accordance with the requirements of this chapter. The Administrator may, at any time, terminate any grant of deviation authority issued under this provision. Grants of deviation may be authorized after consideration of the size and scope of the operation, the qualifications of the intended personnel and the following circumstances:

(1) A newly authorized certificate holder does not employ any pilots who meet the minimum requirements of paragraphs (a)(2)(i) or (a)(4) of this section.

(2) An existing certificate holder adds to its fleet a new category and class aircraft not used before in its operation.

(3) An existing certificate holder establishes a new base to which it assigns pilots who will be required to become qualified on the aircraft operated from that base.

E. Destination Airport Analysis Program (DAAP) Requirements. DAAP requirements are found in section 91.1025 and section 135.23. Specifically, if required by section 91.1037 (c) or section 135.385, as applicable, the Destination Airport Analysis establishing runway safety margins must include the following elements, supported by aircraft performance data supplied by the aircraft manufacturer for the appropriate runway conditions at the airport(s) to be used, if a reduction below 60% of the available runway length is planned:

(1) *Pilot qualifications and experience.* The operator is responsible for including all applicable regulatory requirements to establish a pilot’s eligibility to reduce effective runway planning requirements below 60% of the available runway length. Experience requirements address pilots with less than 100 hours flight time in type (“high minimums”), total flight time, and crew pairing limitations (less than 75 hours in type).

(2) *Aircraft performance data to include normal, abnormal, and emergency procedures as supplied by the aircraft manufacturer.* Landing distance calculations should be completed using FAA approved procedures and data. Consideration must be given to abnormal and emergency procedures, as some of these procedures may increase approach speeds and consequently, landing distance requirements. Additionally, planned takeoff weight for the departure from that airport should be evaluated before operating into that airport.

(3) *Airport facilities and topography.* Consider what services are available at the airport. Services such as communications, maintenance, and fueling may have an impact on operations to and from that airport. Terrain features may figure prominently in or near a particular airport. High, fast-rising terrain may require special approach or departure procedures, which may impact performance requirements. For example, an aircraft certification criterion uses a 3.5-degree glideslope angle in computing landing distance data. Glideslope angles of 2.5 to 3 degrees are common and have the effect of lengthening actual landing distance. Airports that sit on top of hilly terrain or downwind of mountainous terrain may occasionally experience conditions that include gusty conditions or winds shifting from a headwind to a tailwind. Such conditions are an important consideration during the landing

maneuver, particularly during the flare, and increase landing distance requirements.

(4) Runway conditions (including contamination).

Runway features, such as slope and surface composition, can cause the actual landing distance to be longer than the calculated landing distance. Wet or slippery runways may preclude reductions from being taken and, in fact, require 115 percent of the distance derived from calculations, whether a reduction was used or not. This distance is calculated by increasing the distance required under dry conditions by an additional 15 percent (i.e., if AFM data shows the actual landing distance will be 2000 feet, the effective runway length required is 3,334 feet using 60% in this example. If the runway is expected to be wet or slippery upon arrival, the effective runway length required is 3,834 feet). Braking action always impacts the landing distance required as it deteriorates. Always consider the most current braking action report and the likelihood of an update prior to the flight's arrival at a particular airport.

(5) Airport or area weather reporting. Some airports may not have current weather reports and forecasts available for flight planning. Others may have automated observations for operational use. Still others may depend on a nearby airport's forecast for operations. Area forecasts are also very valuable in evaluating weather conditions for a particular operation. Comparing forecasted conditions to current conditions will lend insight to changes taking place as weather systems move and forecasts are updated. Longer flight segments may lean more heavily on the forecast for the ETA, as current conditions may change significantly as weather systems move. For example, if a flight is planned for 5 hours en route, the current conditions may not provide as much insight as a forecast for the arrival time, if a cold front is expected to pass through the area while a flight is en route.

(6) Appropriate additional runway safety margins, if required. Displaced thresholds, airport construction, and temporary obstacles (such as cranes and drawbridges) may impact runway length available for landing. NOTAMS must be consulted prior to conducting a flight and are a good source of information on items such as these.

(7) Airplane inoperative equipment. Thrust reversers, on airplanes so equipped, provide some effect of reducing landing rollout distance. However, they are not considered in landing distance performance requirements and data provided by airplane manufacturers during certification. Rather, they provide an added margin of safety when used. If thrust reversers are inoperable or not installed, that additional safety margin does not exist. Also, their effectiveness is directly related to many factors, including pilot technique, reverser deployment rates, engine speeds, and environmental conditions (e.g. wet or contaminated runways in conjunction with crosswinds). Their actual effectiveness varies greatly. Other airplane systems that directly impact

landing distance requirements include antiskid and ground spoilers (if installed), brake and tire condition, and landing flap selection, to name a few.

(8) Environmental conditions. Many environmental conditions directly and indirectly affect actual landing distance requirements. Frontal passage usually causes winds to shift, sometimes causing a tailwind component. Tailwinds generally have a significantly greater impact on landing distance than headwinds. Thunderstorms in the vicinity of airports can introduce wind gusts from different directions, including windshear, to varying degrees that are difficult to predict in advance or during the actual landing maneuver itself. Density and pressure altitudes also directly impact landing distance requirements. Landing distance tables may take these factors into account. However, variations from planned conditions and actual conditions at time of landing can vary and impact actual landing distance requirements. Stronger than forecasted tailwinds en route can cause the airplane to weigh more than projected, causing the actual landing distance to be longer than planned. If icing conditions were encountered while en route and temperatures above freezing are not reached prior to landing, any ice remaining behind removal devices or on areas that are not protected add additional weight and drag to the airplane, which in turn requires higher airspeeds and longer landing distances.

(9) Other criteria that affect aircraft performance.

Many other variables have an effect on landing distance. Approach speed, flap configuration, airplane weight, tire and brake condition, airplane equipment, and environmental conditions, to name a few, all directly impact required landing distance. With these and many other factors considered, it is the pilot who must apply their application through the use of procedures and technique, the latter being highly variable. While specific additives are provided by manufacturer's landing data, a pilot usually applies techniques acquired through experience in dealing with similar circumstances. Pilots may opt for an especially smooth landing on longer runways by "floating" in ground effect, prior to touchdown. While possibly yielding a smooth landing, this technique will add to the landing distance requirement, as landing data provided by manufacturer's data through the certification process assumes a touchdown rate of descent of 8 feet per second. The following tables provide additional insight into factors that effect landing distance requirements and policies and procedures addressing them should be included in the operator's FAA-approved Destination Airport Analysis program:

REDUCTION OF LANDING DISTANCE PLANNING REQUIREMENTS
General Operational Considerations

Certification criteria	Operational consideration	Effect on safety margin
3.5 degree glideslope angle	2.5 to 3 degrees typical	Actual landing distance will be longer than calculated landing distance.
8 ft/sec touchdown rate of descent	2 to 4 ft/sec typical	Actual landing distance will be longer than calculated landing distance.
Assumes all approach speed additives bled off before reaching the 50 foot height	5 to 10 knots exceedances not uncommon	Actual landing distance will be longer than calculated landing distance.
	Longer flare distance ("float")	Actual landing distance will be longer than calculated landing distance.
	Less than full braking effort	Actual landing distance will be longer than calculated landing distance.
	Delays in obtaining full braking configuration	Actual landing distance will be longer than calculated landing distance.
	Higher temperatures not accounted for (temperature accountability not required)	Actual landing distance will be longer than calculated landing distance.
	Downhill runway slope not accounted for (runway slope accountability not required)	Actual landing distance will be longer than calculated landing distance.
	Icy, slippery, or contaminated runway surface	Actual landing distance will be longer than calculated landing distance.

Certification criteria	Operational consideration	Effect on safety margin
	Airplane heavier at time of landing than predicted at time of dispatch	Actual landing distance will be longer than calculated landing distance.
	Airplane higher than 50 feet over the threshold.	Actual landing distance will be longer than calculated landing distance.
	Airport pressure altitude higher than predicted at time of dispatch.	Actual landing distance will be longer than calculated landing distance.

REDUCTION OF LANDING DISTANCE PLANNING REQUIREMENTS

Other Variable Considerations

Steady-state variables	Non steady-state variables	Actual Operations vs. Flight Test	Actual vs. Forecast Conditions
Runway slope	Wind gusts/turbulence	Flare technique	Runway or direction (affecting slope)
Temperature	Flight path deviations	Time to activate deceleration devices	Airplane weight
Runway surface condition (dry, wet, icy, texture)		Flight path angle	Approach speed
Brake/tire condition		Rate of descent at touchdown	Environmental conditions (for example, temperature, wind, pressure altitude)
Speed additives		Approach/touchdown speed	Engine failure
Crosswinds		Height at threshold	
		Speed control	

F. Operators are responsible for preparing their Destination Airport Analysis program if they desire to

reduce landing distance planning requirements below 60% of the effective runway length. Operators must ensure that

their policies and procedures reflect at least minimum regulatory requirements and adequate policies and procedures prior to submitting their program to the FAA for approval.

G. Checklist. The checklist is available electronically in the guidance subsystem of the OPSS in association with OpSpec/MSpec C049. The checklist should be used to ensure that the operator and its Destination Airport Analysis program meets minimum regulatory requirements. This checklist should be completed by the operator and be provided to the FAA office having approval authority, along with the Destination Airport Analysis program and request for approval and issuance of OpSpec C049 or MSpec C049, as applicable.

OPSPEC C050 - SPECIAL PILOT-IN-COMMAND AIRPORT QUALIFICATIONS.

H. OpSpec C050 is used to authorize part 121 air carrier certificate holders to conduct IFR operations into special airports requiring special airport qualification in accordance with the provisions and limitations of the OpSpec and 14 CFR Section 121.445. OpSpec C050 issued to Part 121 certificate holders that conduct operations into special airports requiring special airport qualifications. For detailed information refer to Order 8400.10, volume 4, chapter 3, section 5, Selected Practices, paragraph 1031, Special Airports Requiring Special Qualification.

I. Air carriers conducting domestic, flag, and supplemental operations require pilots-in-command (PIC) to be qualified for operations into special PIC qualification airports. These PICs must be qualified in accordance with section 121.445.

(1) The amendment added a pictorial means as an additional method of qualifying PICs for operations into special airports requiring special PIC qualification.

(2) OpSpec C050, Special PIC Airport Qualification, is used to authorize special PIC qualification airports for domestic, flag, and supplemental part 121 air carriers.

(3) The list of Special Qualification Airports can be found in the OPSS guidance subsystem in association with OpSpec C050 and on the <http://www.opspecs.com> web site.

J. If both the ceiling and the visibility minimums are not satisfied as detailed in section 121.445(c), then the qualification requirements of section 121.445(b) apply. Section 121.445(b) specifies that for a pilot to serve as PIC on a flight to a special qualification airport, the PIC must have the benefit of one of the following:

(1) The PIC, within the preceding 12 calendar months, has made a takeoff and landing at that airport while serving as a pilot flight crewmember;

(2) The second in command (SIC), within the preceding 12 calendar months, has made an takeoff and

landing at that airport while serving as a pilot flight crewmember; or

(3) Within the preceding 12 calendar months, the PIC has qualified by using pictorial means acceptable to the Administrator for that airport.

K. An assessment conducted by the operator to determine the nature and complexity of certain factors associated with the airport (i.e., high altitude, foreign airport, specific terrain features, unique weather patterns may be present singly or in combination) determines whether the airport should be included in the air carrier's airport listing in OpSpec paragraph C067, "Special Airports" or the provisions of OpSpec C050, "Special PIC Qualification Airports" apply. For instance, an airport with an approved Instrument Flight Rules (IFR) and or Visual Flight Rules (VFR) approach/departure procedure and an unusual characteristic such as a nearby politically sensitive international boundary, or high terrain may require designation as a special PIC qualification airport. In this case, the airport would need to be listed in OpSpec C067 and the provisions of OpSpec C050 also apply. Refer to Order 8400.10, Vol. 4, Chap. 3, SECTION 5, Selected Practices, paragraph 1031, Special PIC Qualification Airports, and Order 8400.10, Vol. 3, Chapter 1, Section 5, OpSpec C067.

L. The air carriers in conjunction with AFS-200 will determine any airport additions or deletions from the Special Airport Qualification list. These changes will be made on a quarterly basis.

OPSPEC/MSPEC C051 - TERMINAL INSTRUMENT PROCEDURES. C051 is issued to all airplane operators who conduct any flight operations under IFR. Federal Aviation Administration (FAA) Order 8260.31B, Foreign Terminal Instrument Procedures, provides direction and guidance on acceptance of foreign terminal instrument procedures. Additional information concerning terminal instrument procedures is in Order 8400.10, volume 4, chapter 2, section 3. For helicopter authorization, see OpSpec H101.

OPSPEC/MSPEC C052 - BASIC INSTRUMENT APPROACH PROCEDURE AUTHORIZATIONS - ALL AIRPORTS. (HBAT 99-17 TO BE INCORPORATED).

A. C052 specifies the types of instrument approaches the operator is authorized to conduct under IFR and prohibits the use of other types of instrument approaches.

(1) Before authorizing a type of instrument approach procedure, the Principal Operations Inspector (POI) must ensure the operator has established the aircraft system eligibility and the flightcrew training and checking requirements, and has revised the training and operations

manuals, as applicable, for the types of approaches to be authorized.

(2) See Order 8400.10, volume 4, chapter 2 for information on required training for various types of approaches.

(3) All the approaches approved by C052 must be published in accordance with 14 CFR part 97 or the foreign State authority.

(4) For part 135 operations, if the visibility and ceiling are below minimums, the reported RVR may be used if that RVR is at or above the minimums for the instrument procedure being used and authorized for that certificate holder.

B. Three types of instrument approach procedures may be authorized in C052:

(1) Column one provides for the authorization of non-precision instrument approach procedures without vertical guidance. Non-precision approaches must be trained and conducted in accordance with an approved procedure that assures descent will not go below minimum descent altitude (MDA) unless the required visual references for continuing the approach are present.

(2) Column two provides for the authorization of non-precision instrument approach procedures with vertical guidance. These approaches provide vertical guidance that are not as accurate as true precision approaches. These non-precision approach procedures with vertical guidance (APV) are trained using an approved method that allows descent to a published decision altitude (DA). The column heading agrees with the ICAO acronym, APV, for approach procedures with vertical guidance.

(3) Column three provides for the authorization of precision instrument approach procedures that provide vertical guidance from an electronic glideslope.

C. Barometric Vertical Navigation (BARO-VNAV) approach operations (referred to as area navigation (RNAV) with vertical guidance) may be authorized for all applicable certificate holders and operators in accordance with the guidance in Order 8400.10, vol. 4, chap. 2, sect.4, paragraph 551, E(1) and paragraph 555, C.

(1) *Air Carrier Aircraft/Commercial Operator Approval.* Once a 14 CFR Part 121, 125, 129, or 135 certificate holder or operator has established the aircraft system eligibility, the flightcrew training and checking requirements, and has revised the training and operations manuals, as applicable, the POI may give approval using this RNAV equipment to fly to the lateral navigation (LNAV)/VNAV DA as shown on the published IAP.

(2) To authorize these non-precision approaches that provide vertical guidance, select “RNAV (GPS)” (for

Part 97 approaches) or “RNAV (GNSS)” (for foreign approaches) for insertion into column two of C052.

D. Precision Runway Monitoring (PRM). The FAA began the Multiple Parallel Approach Program to research whether simultaneous instrument landing system (ILS) approaches to parallel runways would improve capacity. The objective was to achieve improvements in airport arrival rates through the conduct of simultaneous closely spaced-parallel approaches. That objective is being met using PRM.

(1) *ILS/PRM and LDA/PRM Approaches.* Where parallel runway centerlines are 4,300 feet apart or less, but no less than 3,000 feet, simultaneous ILS approaches may be conducted. Similarly, where parallel runway centerlines are 3,000 feet apart or less, but no less than 750 feet, simultaneous offset instrument approaches (SOIA) may be conducted with ILS approaches. Those approaches are labeled “ILS/PRM” and “LDA/PRM,” respectively, on instrument approach charts. Air traffic control (ATC) provides an air traffic controller using special PRM radar during these approaches. That controller is known as the final monitor controller.

(2) *The Breakout Maneuver.* Working with industry, the FAA conducted extensive analysis of simulation data and determined that the implementation of PRM and SOIA approach operations to closely spaced parallel runways requires additional crew training. The primary focus of this training is to raise each pilot’s situational awareness in ILS/PRM and LDA/PRM operations. The breakout maneuver must be flown manually.

(a) *Traffic Alert.* One important element of the additional training is the pilot’s understanding of the difference between a normal missed approach initiated by a pilot and a breakout initiated by a PRM final monitor controller. It must be clear to flightcrews that the words “Traffic Alert,” when used by the final monitor controller, signal critical instructions that the pilot must act on promptly to preserve adequate separation from an airplane straying into the adjoining approach path.

(b) *ATC Breakout Maneuver Command to Turn and/or Descend, Climb, or Maintain Altitude.* The flightcrew must immediately follow the final monitor controller’s vertical (climb/descend/maintain altitude) and horizontal (turn) commands. If the flightcrew is operating Traffic Alert and Collision Avoidance System (TCAS) in the traffic advisory (TA)/resolution advisory (RA) mode and receives a TCAS RA at any time while following the final monitor controller’s command, the flightcrew will simultaneously continue to turn to the controller’s assigned heading and follow the vertical guidance provided by the TCAS RA.

(c) *Time-to-Turn Standard.* Regardless of airplane type, tests and data analysis revealed that pilots normally passed through an angle of bank of at least 3

degrees while rolling into a breakout turn, within 10 seconds of receiving a breakout command. (Bank angles of between 20 and 30 degrees were normally achieved during the breakout.) The air carrier must show that its pilots can readily meet this time-to-initiate-turn standard prior to the POI authorizing ILS/PRM or LDA/PRM approaches in OpSpec/MSpec C052. Flightcrews are required to manually fly the breakout maneuver unless otherwise approved by AFS-200 (AFS-200 must have AFS-400 concurrence to approve breakout in auto modes). The air carrier should demonstrate its ability to meet this standard by having representative pilots perform the breakout maneuver while the POI or the POI's designated representative observes. The demonstration should conform to procedures contained in the air carrier's approved operating manual for its flightcrews.

NOTE: In a breakout, ATC will never command a descent below the applicable minimum vector altitude (MVA), thus assuring that no flight will be commanded to descend below 1,000 feet above the highest obstacle during a breakout.

(3) *ILS/PRM, LDA/PRM, and the Use of TCAS.*

TCAS may be operated in TA/RA mode while executing ILS/PRM or LDA/PRM approaches. However, when conducting these operations, pilots must understand that the final monitor controller's instruction to turn is the primary means for ensuring safe separation from another airplane. Pilots must bear in mind that TCAS does not provide separation in the horizontal plane; TCAS accomplishes separation by commands solely in the vertical plane. Therefore, during final approach only the final monitor controller has the capability to command a turn for lateral separation. Flightcrews are expected to follow any ATC instruction to turn.

(a) *ATC command to turn with TCAS RA.* In the unlikely event that a flightcrew should simultaneously receive a final monitor controller's command to turn and a TCAS RA, the flightcrew must follow both the final monitor controller's turn command and the TCAS RA's climb or descent command.

(b) *TCAS RA Alone.* In the extremely unlikely event that an RA occurs without a concurrent breakout instruction from the final monitor controller, the pilot should follow the RA and advise the controller of the action taken as soon as possible. In this instance, it is likely that a breakout command would follow.

(c) *TCAS not required.* An operative TCAS is not required to conduct ILS/PRM or LDA/PRM approaches.

(4) *Pilot Training.* See Order 8400.10, volume 4, chapter 2, section 4, paragraph 555, subparagraph C, for information on pilot training required prior to authorizing PRM approaches.

(5) *ILS/PRM and LDA/PRM in OpSpecs.* U.S. or foreign air carriers will be authorized ILS/PRM and/or LDA/PRM approaches in OpSpec/MSpec C052. Definitions of ILS/PRM and LDA/PRM have been added to OpSpec/MSpec A002.

OPSPEC/MSPEC C053 - STRAIGHT-IN CATEGORY I APPROACH PROCEDURES OTHER THAN ILS, MLS, OR GPS AND IFR LANDING MINIMUMS – ALL AIRPORTS. C053 specifies the lowest minimums which can be used for Category I nonprecision approach procedures other than ILS, MLS, or Global Positioning System (GPS) and IFR landing minimums at all airports. It also provides special limitations and provisions for these instrument approach procedures at foreign airports. "Category I Approach Procedures and IFR Landing Minimums - All Airports," (original title) was revised as follows:

A. C074 authorizes Straight-In Category I Precision Approach Procedures and IFR Landing Minimums - All Airports; C075, authorizes Circling Maneuvers; and C076, authorizes Contact Approaches. See Order 8400.10, volume 4, chapter 2 for information on required training for circling maneuvers and contact approaches.

B. The previous nonprecision approach table now refers to Category I nonprecision approaches as "approaches other than ILS, MLS, or GPS Landing System (GLS)."

C. For helicopter authorization, see OpSpec/MSpec H103.

OPSPEC/MSPEC C054 - SPECIAL LIMITATIONS AND PROVISIONS FOR INSTRUMENT APPROACH PROCEDURES AND IFR LANDING MINIMUMS.

A. C054 is issued to all operators conducting operations under Part 121. It is also issued to operators who conduct turbine-powered airplane operations under part 135 and part 91, subpart K. It is not issued to Part 135 operators who do not operate turbine-powered airplanes unless that operator also conducts operations under Part 121. C054 specifies the Runway Visual Range (RVR) landing minimum equivalent to the published RVR landing minimum which must be used by high minimum pilots (less than 100 hours in aircraft type). It also specifies that before a pilot-in-command of a turbojet can conduct an instrument approach with visibility conditions reported to be below 3/4 mile or RVR 4000 (basic turbojet landing minimums), he must be specifically qualified and authorized to use standard landing minimums. See Order 8400.10, volume 4, chapter 2 for information on the qualification and authorization requirements to use the standard landing minimums.

B. RVR 3000 and its correlation of RVR 5000 for high minimum pilots was added to the RVR landing minimum table to recognize the MALS/SALS visibility credit given in

C053.

OPSPEC/MSPEC C055 - ALTERNATE AIRPORT IFR WEATHER MINIMUMS. C055 is issued to all part 121 and part 135 operators and part 91K program managers who conduct IFR operations with airplanes. This paragraph provides a two part table from which the operator, during the initial dispatch or flight release planning segment of a flight, derives alternate airport IFR weather minimums in those cases where it has been determined that an alternate airport is required.

A. The first part of the table is for airports with at least one operational navigational facility providing a straight-in nonprecision approach procedure, or a straight-in precision approach procedure, or, when applicable, a circling maneuver from an instrument approach procedure. The required ceiling and visibility is obtained by adding 400 feet to the CAT I Height Above Touchdown (HAT) or, when applicable, the authorized Height Above Airport (HAA) and by adding 1 s.m. to the authorized CAT I landing minimum.

B. The second part of the table is for airports with at least two operational navigational facilities, each providing a straight-in nonprecision approach procedure or a straight-in precision approach procedure to different suitable runways. The required ceiling and visibility is obtained by adding 200 feet to the higher CAT I HAT of the two approaches used and by adding 1/2 s.m. visibility to the higher authorized CAT I landing minimum of the two approaches used.

C. In some cases, it is possible to have higher alternate minimums when using two operational navigational facilities than when using one. For example, an airport with one straight-in nonprecision approach procedure with a HAT of 400 feet and 1 s.m. visibility would have alternate minimums of 800 feet and 2 s.m. visibility (400 feet + 400 feet and 1 s.m. + 1 s.m.). On the other hand, an airport with two straight-in approaches, one a straight-in precision approach with a HAT of 200 feet and 1/2 s.m. visibility and the other a straight-in nonprecision approach with a HAT of 700 feet and 1 s.m. visibility, would have alternate minimums of 900 feet and 1 1/2 s.m. visibility (200 feet + 700 feet and 1/2 s.m. + 1 s.m.). Since the operations specifications require that the higher ceiling and visibility be used, the minimums for the airport with two straight-in approaches are higher than for the airport with only one straight-in approach. When this situation exists, the operator may elect to consider the airport as having only one straight-in approach procedure and may add the higher buffer requirement (400 feet and 1 s.m.) to whichever straight-in approach procedure provides for the lowest possible ceiling and visibility minimums.

D. Except for Extended Range Operations (ER-OPS), two suitable runways may be the different ends of the same physical runway surface (such as, runway 4 and runway 22

are two different runways). When using an airport as an alternate in ER-OPS operations in accordance with OpSpec B042, two separate physical surfaces must be used. The word suitable is defined in the latest version of Advisory Circular (AC) 120-42, Extended Range Operation With Two-Engine Airplanes (ETOPS).

E. OpSpec/MSpec paragraph C055 (see revision history in the OPSS guidance subsystem) now allows credit for alternate minima based on Category (CAT) II or CAT III capability. This change is located in the Alternate Airport Table in row three. Flightcrews having that capability may take credit for CAT II/III-qualified aircraft and adjust minimums accordingly. The alternate minimums are based on CAT III engine inoperative requirements. The following are some but not all of those requirements. See criteria in AC 120-28, as amended, for further engine inoperative requirements.

(1) Aircraft is capable of engine inoperative CAT III.

(2) Appropriate procedures are established.

(3) Performance and obstruction clearance information is provided to the flightcrew.

(4) Appropriate aircraft configuration, wind limits, and other appropriate information is provided to the flightcrew.

F. Question: "Does the FAA consider an ILS facility which contains a single transmitter frequency for an ILS, but with two different ILS identifications (depending on which runway is being used) as one or two 'navigational facilities?'"

(1) The words "two operational facilities" have always meant that in the event there is a single failure of one facility, the other would be operational. In the situation where both ILS facilities share a single transmitter, it would be considered "one operational navigational facility," since both ILSs would become inoperative in the event of a single transmitter failure.

(2) The two ILS identifiers would have to be different even though the ILS transmitter frequency is the same for both. The charts should tell pilots whether there is one frequency or two. Thus, one or two navigational facilities.

G. For helicopter authorizations, see OpSpec/MSpec H105.

OPSPEC C056 - IFR TAKEOFF MINIMUMS, PART 121 OPERATIONS - ALL AIRPORTS. C056 is issued to all operators who conduct operations under Part 121.

A. C056 did not change in policy but was split into two paragraphs for programming purposes in the new OPSS: C056 "IFR Standard Takeoff Minimums, 14 CFR Part 121

(125) Airplane Operations - All Airports” and C078, “IFR Lower Than Standard Takeoff Minimums, 14 CFR Part 121 (125) Airplane Operations - All Airports.”

B. If an operator is not authorized to use lower than standard takeoff minimums, C078 will not be issued. See Order 8400.10, volume 4, chapter 2 (TBD) for information concerning requirements an operator must meet before being authorized to use lower than standard takeoff minimums. If an operator conducts operations under both Parts 121 and 135, C056 and C057 may need to be issued. For more information, see the following:

- 14 CFR § 121.649
- 14 CFR § 121.651(a)(1)
- 14 CFR § 91.175(f)
- Order 8400.10, volume 4, chapter 2, section 7, All Weather Operations
- Flight Standards Board (FSB) Report for specific aircraft

C. This is not available or applicable to part 91K program managers. See 14 CFR part 91, § 91.1039(e).

OPSPEC C057 - IFR TAKEOFF MINIMUMS, PART 135 OPERATIONS - ALL AIRPORTS. C057 is issued to all part 135 operators who conduct IFR airplane operations to authorize an operator to use takeoff minimums equal to the lowest straight-in landing minimums (14 CFR part 135, section 135.225(h)).

A. C057 is issued for conducting IFR standard takeoff minimums which are defined as 1 statute mile visibility or RVR 5000 for airplanes having 2 engines or less and 1/2 statute mile visibility or RVR 2400 for airplanes having more than 2 engines. RVR reports, when available for a particular runway, shall be used for all takeoff operations on that runway. All takeoff operations, based on RVR, must use RVR reports from the locations along the runway specified in this paragraph.

B. The POI, principal maintenance inspector (PMI), and principal avionics inspector (PAI) must coordinate the issuance of OpSpec paragraphs A046, Single-Engine IFR (SEIFR), C057, and D071, Additional Maintenance Requirements, once the operator has met the requirements for SEIFR operations. All three OpSpec paragraphs must be issued for SEIFR authorization.

(1) OpSpec paragraph A046, Single Engine IFR (SEIFR) Passenger-Carrying Operations Under CFR Part 135, contains specific maintenance and operational limitations and provisions necessary for authority to operate under IFR while carrying passengers in a single-engine airplane.

(2) The standard OpSpec paragraph C079, 14 CFR Part 135 Operations Lower Than Standard Takeoff Minimums, is not authorized for SEIFR operations. Single-engine IFR Part 135 passenger-carrying operations are not

authorized lower than standard takeoff minimums at any airport without concurrence and authorization from FAA headquarters. Thus for SEIFR operations there is no automatic relief from the requirements of section 135.225(e).

(3) OpSpec paragraph D071, Additional Maintenance Requirements, contains requirements for airplanes operated in SEIFR operations.

C. The following subparagraph is a selectable for issuance in C057, if applicable:

“c. When takeoff minimums are equal to or less than the applicable standard takeoff minimum, the certificate holder is authorized to use a takeoff minimum equal to the lowest authorized straight-in Category I IFR landing minimum applicable to the certificate holder for that particular airport. The Touchdown Zone RVR report, if available, is controlling.”

D. The following subparagraph is selectable for issuance in C057 for turbine-powered single engine airplanes only:

“d. Notwithstanding the requirements of the “NOTE” in subparagraph b above, the certificate holder is authorized lower than standard takeoff minimums for its 14 CFR Part 135 single engine passenger-carrying operations in its turbine-powered single engine airplanes only per the limitations and provisions of C057 including subparagraph c.”

E. For authorizing the part 135 operator to use takeoff minimums lower than ½ mile or RVR 1800, OpSpec C079 is applicable. See AC 120-29, as amended, for information concerning requirements an operator must meet before being authorized to use lower than standard takeoff minimums.

F. C057 is not applicable nor available for Part 91K program managers. See 14 CFR section 91.1039(e). For helicopter authorizations, see OpSpecs H106 and H116.

OPSPEC C058 - SPECIAL RESTRICTIONS FOR FOREIGN TERMINAL INSTRUMENT PROCEDURES

A. C058 is issued only when the POI (or region responsible for the geographic area where a foreign airport is located) finds it necessary to place special restrictions on a foreign terminal instrument procedure.

B. These special restrictions to foreign terminal instrument procedures are applicable to U.S. air carriers (Part 121 and 135) and program managers (91K). The purpose of these special restrictions is to establish an equivalency between the foreign terminal instrument

procedure and the International Civil Aviation Organization (ICAO) (PANS-OPS) or (TERPS) criteria.

C. FAA Order 8260.31, Foreign Terminal Instrument Procedures, provides direction and guidance on how to place restrictions on foreign instrument procedures. This order also contains a list of foreign terminal instrument procedures that are currently restricted. If an operator conducts flights to any airport listed in the appendices of this order, the POI must issue C058 with the name of the airport, airport identification, procedure identification, and special restrictions listed.

D. On July 6, 1998, Hong Kong's new airport (Chek Lap Kok) opened; at the same time, Hong Kong's old airport (Kai Tak) closed. Since there has been no revision to the appendices of Order 8260.31, we recommend removing the reference to Kai Tak airport from C058 reference the Chek Lap Kok airport. Consideration and procedures shall be established for the following at the new Chek Lap Kok airport:

- (1) Loss of navigation capability;
- (2) Severe reduction of aircraft climb performance due to engine or aircraft system failures; and
- (3) (3) Escape paths for the above situations.

E. For helicopter authorization, see OpSpec/MSpec H107.

OPSPEC/MSPEC C059 - CATEGORY II INSTRUMENT APPROACH AND LANDING OPERATIONS. (HBAT 99-17 TO BE INCORPORATED)

A. CAT II operations are approved by issuance of OpSpec C059 to certificate holders/operators and MSpec MC059 to program managers for Part 91K fractional ownership operations.

B. All initial CAT II operations for each operator/program manager and each airplane type used by that operator/program manager require Regional Flight Standards Division and AFS-400 review and concurrence before issuing OpSpec/MSpec C059. Category II (CAT II) operations are evaluated for approval in accordance with the

following:

(1) Advisory Circular (AC) 120-29 (as amended), "Criteria for Approval of Category I and Category II Weather Minima for Approach."

(2) Order 8400.10, volume 4, chapter 2, All-Weather Terminal Operations.

(3) An acceptable lower landing minima (LLM) maintenance program in accordance with Order 8300.10, Airworthiness Inspector's Handbook, volume 2, chapter 3, in coordination with the principal avionics and maintenance inspectors.

(4) Concurrence of the Regional Flight Standards Division and AFS-400 is also required before amending OpSpec/MSpec C059 to include an airplane make/model/series new to the operator/program manager.

C. Detailed guidance for helicopter CAT II/III operations can be found in Order 8700.1, General Aviation Operations Inspector's Handbook, volume 2, chapter 59, Approve/Authorize Category I/Category II/Category III Operation.

D. In addition to the standard CAT II operations authorized by OpSpec/MSpec C059, nonstandard domestic CAT II operations can be authorized to qualifying runways that do not meet the performance or equipment requirements normally associated with a compliant CAT II operation (e.g., touchdown zone lighting (TDZ), centerline lighting (CL), or Approach Lighting System with Sequenced Flashing Lights (ALSF)-1 & 2) by issuing the nonstandard OpSpec/MSpec C359. Specific guidance for this nonstandard VAT II authorization is found in:

(1) Order 8400.10, volume 3, chapter 1, section 5, Part C, OpSpec C359, Special Authorization for Certain Category II Operations at Specifically Approved Facilities, and

(2) Order 8400.13, Procedures for the Approval of Special Authorization Category II and Lowest Standard Category I Operations.

E. Each airplane type (make/model/series) used in CAT II operations must be listed in Table 1 of C059 and have an acceptable LLM maintenance program. The lowest decision height (DH) and lowest runway visual range (RVR) authorized for each airplane type must also be specified. The following example illustrates the method for authorizing each airplane in OpSpec/MSpec C059:

Table 1

CAT II Approach and Landing Minimums		
Airplane (Make/Model/Series)	DH Not less Than	Lowest Authorized RVR
AIRBUS 300 A300B4103	100 Ft	1200
BOEING 727 217	100 Ft	1600
DOUG DC9 31	100 Ft	1600
DOUG DC9 32	100 Ft	1600
DOUG DC9 51	100 Ft	1600
DOUG DC9 81	100 Ft	1200
LKHEED 1011 385114	100 Ft	1200
BOEING 777-200	100 Ft	1000

F. CAT II operations, with a decision height of 100 feet and RVR 1000 (300m) (lower than standard) may be authorized at certain foreign airports and domestic type III facilities when:

(1) An autoland approach or head-up guidance system (HGS) is used to touchdown;

(2) The airplane and its automatic flight control guidance system, or manually flown guidance system, are approved for approach and landing operations as specified by paragraph C060, C061, or C062 of these OpSpecs/MSpecs;

(3) The autopilot and approach coupler, or HGS system, is listed in the required CAT II airborne equipment (Table 2) of this OpSpec/MSpec;

(4) Equipment is flown in the HGS CAT III mode(s) of operation or autoland to touchdown, as appropriate;

(5) The flightcrew has been trained at the lower visibilities before they can be authorized. If the flightcrew is currently authorized CAT III operations, no further training is required for this authorization in C059.

(6) The authorization for RVR 1000 is selected as subparagraph j in OpSpec/MSpec C059 and listed in Table 1 of OpSpec/MSpec C059.

(7) The notation of HGS CAT III mode(s) of operation or autoland, as appropriate, is listed in the "Additional Equipment and Special Provisions" column of Table 2.

G. The equipment required to conduct manually flown or automatically flown CAT II operations is specified in Table 2 of OpSpec/MSpec C059 for each airplane make/model/series. The equipment required is established in accordance with the applicable regulations, the approved Aircraft Flight Manual (AFM) (if applicable), and

AC 120-29, as amended. There are two acceptable methods of demonstrating that an airplane is airworthy for CAT II operations. These acceptable methods are "type design approval," obtained by a manufacturer or STC holder, or an "operational demonstration," conducted by an operator/program manager.

(1) *Type Design Approval.* The approved AFM (or flight manual supplement), for airplanes that have CAT II type design approval, contains a statement that the airborne systems have demonstrated the reliability and redundancy necessary for CAT II operations in accordance with AC 120-29 (or previous versions). Approved flight manuals also specify that certain equipment is required for airworthiness approval of the various kinds of CAT II operations. Some of the approved flight manuals also indicate that acceptable CAT II performance was demonstrated both with, and without, certain equipment (e.g., "autothrottles w/wo"). AC 120-29, as amended, also specifies that certain types of equipment are required for operational approval of the various kinds of CAT II operations (manual/autopilot). Therefore, both the approved AFM and AC 120-29, as amended, must be considered in determining if the additional equipment requirement must be listed (specified) in Table 2 of OpSpec/MSpec C059. The illustration below shows how the additional or required equipment should be listed in Table 2 of OpSpec/MSpec C059.

(a) Equipment that is explicitly required by the airplane certification regulations (Title 14 of the Code of Federal Regulations (14 CFR) parts 23 and 25), the operating regulations (14 CFR parts 91, 91K, 121, 125, and 135) and/or the approved AFM **SHOULD NOT BE LISTED** in Table 2. The standard text of C059 requires this equipment to be functional. Therefore, the additional equipment or operational requirement that must be listed (specified) in OpSpec/MSpec C059 is determined by cross-checking the type of equipment required by AC 120-29, as amended, for the kinds of CAT II operations proposed, against the equipment required by regulations and the approved AFM.

i. The equipment listed in Table 2 of OpSpec/MSpec C059 as additional equipment is only that equipment required by AC 120-29, as amended, a Supplemental Type Certificate (STC), an Aircraft Flight Manual Supplement (AFMS), etc., and/or Order 8400.13, as applicable, for the kind(s) of CAT II operations to be authorized that is not explicitly required by regulations and/or the AFM. This would include equipment such as autoland for B-747 operations below RVR 1600.

ii. RVR 1000 authorization at certain foreign airports and domestic CAT III facilities must be noted in the listing (Table 2) of the additional equipment for CAT II and it must be noted in the remarks column of Table 2 that the equipment is to be flown in the autoland or HGS CAT III mode(s) of operation. Precision CAT II landing minimums are authorized only for autoland or HGS-equipped aircraft when operated by a properly qualified flightcrew and flown in the HGS CAT III mode(s) of operation. Additional guidance may be found in AC 120-29, as amended.

(b) When the AFM indicates acceptable performance both with and without (w/wo) certain items of equipment (which are not explicitly required by AC 120-29, as amended), it must be determined how the operator/program manager intends to conduct CAT II operations and train flightcrews with those items of equipment. If the operator/program manager proposes to conduct operations both with and without certain items of equipment (such as autothrottle, autopilot), flightcrews must be trained for both situations and the item of equipment does not need to be listed in Table 2 of OpSpec/MSpec C059.

(2) *Equipment Eligibility that is Not Stated in the AFM, the AFMS, or the Flight Standardization Board (FSB) Report.* The operational demonstration method of demonstrating the airworthiness of CAT II equipment is only appropriate for airplanes and equipment that do not have CAT II type design approval. The operational demonstration must be conducted in accordance with AC 120-29, as amended. A part 121, 125, 129, 135 operator or a part 91K program manager should request that its Flight Standards District Office (FSDO) provide assistance in the eligibility assessment:

(a) The operator or program manager should provide the FSDO with the aircraft make, model and serial number, any evidence of instrument flight rules (IFR) approach approval, and pertinent information from flightcrew operating procedures.

(b) If the FSDO is unable to determine equipment eligibility from the approved documentation, it

should forward the request and supporting data through its FAA Flight Standards Regional Division to the appropriate Aircraft Evaluation Group (AEG). The AEG will verify that the aircraft and its landing system meet the criteria for CAT II operations, and that the system can safely fly the CAT II approach procedures. The AEG will provide written documentation (e.g., amended FSB Report or other official documentation) to verify the eligibility of that equipment.

H. For CAT II authorization the operator or program manager must have an acceptable LLM maintenance program in accordance with Order 8300.10, volume 2, chapter 3. This LLM maintenance program should be coordinated with the principal airworthiness inspectors.

I. The kind of CAT II operation (manually-flown HGS and/or autopilot) must be specified for each item of equipment listed in Table 2 of OpSpec/MSpec C059. The following guidelines should be followed for filling out

Table 2:

- CAT II equipment required by the regulations or the approved AFM should **NOT** be listed.
- The required Airborne Equipment table combines the manual and autopilot columns into one column for programming purposes. Instead of putting an X under the appropriate column, the principal operations inspector (POI) will select the appropriate phrase, manual, or autopilot.
- If an item of equipment is applicable to a specific airplane's Make/Model/Series (M/M/S) for both manual and autopilot CAT II operations, both manual and autopilot can be highlighted and selected for insertion into the column.
- Please note the equipment required for RVR 1000 CAT II authorization is to be listed in the "Additional Equipment" column.
- See the sample of Table 2 below for examples of how the items of equipment should be specified for the kind of CAT II operation.

EXAMPLE OF CAT II ITEMS OF EQUIPMENT

Table 2 (sample)

Kind of Category II Operation		
Airplane (Make/Model/Series)	Additional Equipment & Special Provisions	Manual (HGS)/Auto Pilot
Boeing 767 219	1. Approach coupler and FD must be operative	Auto Pilot
Boeing 757-232	1. An independent FD and display for each pilot (L and R or C and R)	Auto Pilot
Boeing 737-200	None-AFM guidance	Manual (HGS) or Auto Pilot
NIHON YSII A200	AFM Supplement dtd 3/26/2003	Auto Pilot

NOTE: The following equipment is required by the AFM and SHOULD NOT be listed in table 2 of

OpSpec C059:

- **One engine inoperative with flaps 20 degrees and manual throttle or 2 engines operative**
- **One Autopilot**
- **Two Electronic Attitude Director Indicators (EADI)**
- **Two Inertial Reference Units (IRU) in NAV mode**
- **Two sources of electrical power**

J. Authorized Airports and Runways. Airports and runways for which an operator is authorized to conduct CAT II instrument approach and landing operations are specified by Table 3 of OpSpec/MSpec C059.

(1) All foreign CAT II facilities approved for the program manager/operator's use must be listed in Table 3 of OpSpec/MSpec C059.

(2) If the airport and runways are approved for CAT II operations in part 97, they should not be routinely listed in Table 3 of OpSpec/MSpec C059 unless the POI deter-

mines there is a need to specify a special limitation for an operator at a particular airport.

(a) If the CAT II approach procedure is published in the National Aeronautical Charting Office Instrument Approach Procedures (IAP) flight information publication as a CAT II procedure, it is approved under part 97.

(b) The list of domestic- and foreign-approved CAT II/III facilities is based on Order 8400.8, Appendix 4, Procedures for Approval of Facilities for FAR Part 121 and Part 135 CAT III Operations, or the current version of Order 8400.13, Procedures for the Approval of Special Authorization Category II and Lowest Standard Category I Operations, can be found on the AFS-410 website.

(c) Once a facility has been approved, AFS-400 will put that facility on its Web site and notify the requesting air carrier, program manager, or their respective POIs of the approval.

(3) For RVR 1000 authorization, the foreign approved airports and runways for these operations must also be listed in Table 3.

(4) The following example of Table 3 illustrates a method for listing authorized airports and runways:

Table 3 (sample)

Airport Ident	Runways	Special Limitations
Mirabel, Canada	06	
Taipei - Chiang Kai Shek, Taiwan	056/23R	
Tokyo – Narita, Japan	16	

K. Note that in the “Operating Limitations” subparagraph, the crosswind component on the runway of intended landing was increased from 10 knots to 15 knots (or in accordance with the AFM, whichever is more restrictive).

L. Pilots-in-command (PIC) who have not met the requirements of section 91.1039(c), section 121.652, or section 135.225(d) as appropriate, shall use the high minimum pilot RVR landing minimum equivalents as determined from the table in OpSpec/MSpec C054. For the PIC to conduct the part 121 CAT II operations at the lower authorized minimums, he/she must have currently accumulated the hours required by section 121.652, in the aircraft type that he/she is going to be flying for that carrier. The provision of Air Transportation Association (ATA) exemption 5549 for part 121 air carriers may also apply.

M. Foreign lighting systems are accepted but may not be technically equivalent to Approach Lighting System with Sequenced Flashing Lights (ALSF).

N. For landing minimums not less than 1200 RVR, the

touchdown zone sensor and the rollout sensor of an RVR system is required and must be used. The touchdown zone sensor RVR report is controlling for all operations and the rollout sensor RVR report provides advisory information to pilots. A mid-RVR sensor report, if available, provides advisory information to pilots and may be substituted for the rollout sensor RVR report if the rollout sensor RVR report is not available. Some RVR reporting systems contain four (4) sensors (e.g., touchdown zone, mid, rollout, and far end). In those cases, a far end sensor also provides advisory information to pilots and may be substituted for the rollout sensor RVR report if the rollout sensor RVR report is not available.

OPSPEC/MSPEC C060 - CATEGORY III INSTRUMENT APPROACH AND LANDING OPERATIONS.

A. Category (CAT) III is an optional authorization. OpSpec/MSpec C060 issuance is required for authorizing parts 121, 125, 135 and 91K Category III (CAT III) operations.

(1) CAT III operations are evaluated in accordance with the latest version of AC 120-28, Criteria for Approval of Category III Weather Minima for Takeoff, Landing, and Rollout.

(2) Initial CAT III authorization must be coordinated through the Regional Flight Standards Division (RFSD) All Weather Operations Program Manager (AWO) (see Order 8400.10, volume 4, chapter 2, All-Weather Terminal Area Operations).

(3) RFSD (AWO) concurrence is also required before amending OpSpec/MSpec C060 to include an airplane make/model/series for an operator.

(4) All reductions in CAT III operating minimums for each operator and aircraft also require RFSD (AWO) concurrence.

(5) Initial authorizations may require higher minima for a period of time or number of operations. The POI should issue the authorization using the higher minima and re-issue the OpSpec/MSpec at the appropriate time to authorize the higher minima.

B. The authorization is applicable to operations conducted by:

- Part 91, subpart K, program managers
- Part 121 certificate holders
- Part 125 operators
- Part 129 foreign air carriers
- Part 135 certificate holders

C. Airplanes Approved for CAT III operations. Airplanes with an approved Airplane Flight Manual (AFM) entry authorizing CAT III may be approved for CAT III. In accordance with the AFM, CAT III operations may be conducted with either fail operational (FO) or fail passive (FP) systems. Table 1 of OpSpec/MSpec C060 classifies all CAT III landing systems as either FP or FO and is specified in Table 1 for each airplane make/model/series.

(1) Each airplane type (make/model/series) and the equipment authorized to conduct CAT III operations must be listed in Table 1 of OpSpec/MSpec C060. Aircraft, including wide body aircraft such as the DC-10, L-1011, and B-747, which are authorized for FO CAT III but have not been demonstrated to meet the FP provisions of Appendix 3 of AC 120-28, as amended, may be approved with landing minima of runway visual range (RVR) 1000.

(2) The equipment required to conduct CAT III operations is established in accordance with the applicable parts of 14 CFR, the approved AFM, and AC 120-28, as amended.

(a) The only acceptable method of demonstrating that an airplane is airworthy for CAT III

operations is through type design approval obtained by a manufacturer.

(b) The approved AFM (or flight manual supplement) for airplanes which have CAT III type design approval contains a statement to the effect that the airborne systems have demonstrated the reliability and redundancy necessary for CAT III operations in accordance with AC 120-28 (or previous versions).

(c) These approved flight manuals also specify that certain equipment is required for airworthiness approval of the various kinds of CAT III operations.

(d) Some of the approved flight manuals also indicate that acceptable CAT III performance was demonstrated both with and without (w/wo) certain equipment (for example "autothrottles w/wo"). AC 120-28, as amended, also specifies that certain types of equipment are required for operational approval of the various kinds of CAT III operations. Therefore, both the approved AFM and AC 120-28 must be considered in determining the additional equipment which must be listed (specified) in Table 1.

(3) Equipment which is explicitly required by the airplane certification regulations (parts 23 and 25), the operating regulations (parts 91, 121, 125, and 135), and/or the approved AFM should not be listed in Table 1.

(a) The standard text of OpSpec/MSpec C060 requires this equipment to be functional.

(b) Therefore, only the additional equipment which must be listed (specified) in Table 1 of OpSpec/MSpec C060 is determined by cross checking the types of equipment required by AC 120-28, as amended, for the kind(s) of CAT III operation proposed against the equipment required by the regulations and the approved AFM.

(c) The equipment to be listed in Table 1 as additional equipment is only that equipment which is not explicitly required by the regulations and/or the AFM, but is required by AC 120-28 and/or the guidance and direction in the AWOPM concurrence letter for the kind(s) of CAT III operations to be authorized.

(4) When the AFM indicates acceptable performance both with and without certain items of equipment (which are not explicitly required by AC 120-28, as amended, or the AWOPM AFS-400 concurrence letter), it must be determined how the operator intends to conduct CAT III operations and train flightcrews with those items of equipment.

(a) If the operator proposes to conduct operations both with and without certain equipment (such as autothrottle), the operator must train flightcrews for both situations and the item of equipment does not need to be listed in OpSpec/MSpec C060.

(b) If the operator proposes to conduct operations only when those items of equipment (w/wo) are

functional, then those items of equipment must be listed in OpSpec/MSpec C060.

(5) The authorizations for a decision height (DH)/Alert Height (AH), the lowest RVR (see also H below), the

field length factor (see D below), and the FP/FO landing systems must be specific for each airplane type. In general, the following summary applies:

Fail Operational Landing Systems:

Fail Operational Landing Systems-General 1. Utilize an AH (typically 50 ft.) 2. Must go-around if any system failure occurs above AH. 3. Could land safely if a failure occurs after AH.			
Fail Operational without a rollout system:	Fail Operational with any FAA-approved rollout system:	Fail Operational with a fail passive rollout system	Fail Operational with a fail operational rollout system
1. Lowest allowable RVR 600/600/600 2. Suitable visual prior to touchdown	1. No visual necessary 2. Any FAA approved rollout system 3. Lowest allowable RVR 600/400/400	1. No visual necessary 2. Lowest allowable RVR 400/400/400	1. No visual necessary 2. Lowest allowable RVR 300/300/300

Fail Passive Landing Systems:

Fail Passive Landing Systems-General: 1. Utilize a DH (no less than 50 ft) 2. Must have visual references NLT DH to land, otherwise missed approach 3. System not capable of autoland if a failure occurs after DH. 4. If lose visual references after DH or a failure after DH (prior to touchdown), missed approach.	
Fail Passive without a rollout system:	Fail Passive with any FAA approved rollout system
Lowest allowable RVR 600/600/600	Lowest allowable RVR 600/400/400

D. The runway field length required for the various kinds of CAT III operations must be specified in Table 1 of OpSpec/MSpec C060 for each airplane m/m/s.

(1) For operations with a controlling RVR at or above RVR 600, the required field length is 1.15 times the field length required by:

- 14 CFR section 121.195(b), or
- 14 CFR section 135.385(b), or
- the AFM for part 125
- 14 CFR section 91.1037 and AFM

(2) For a precision instrument approach and landing with a controlling RVR below 600 feet, the required field length is either 1.15 or 1.3 times the field length required by the previously cited regulations depending on the operational procedures and/or additional equipment used by the operator.

(3) The "Special Operational Equipment and Limitations" column in Table 1 is provided for equipment that is

IN ADDITION to that required by 14 CFR and not included in the AFM.

(4) For example, additional equipment may be required if a field length factor of 1.15 is used in operations below RVR 600 where a procedural means alone is not acceptable (see AC 120-28, as amended).

E. Operators currently authorized RVR 700 may be approved for RVR 600 operations as follows:

(1) When the operator has incorporated changes reflecting RVR 600 into the approved training program (when applicable), bulletins, aircraft placards, etc., as appropriate.

(2) When a check airman or an FAA inspector has certified the flightcrews to fly to these reduced minimums.

F. An operator currently using RVR 600 or lower in its approved training for FP operations may be approved for RVR 600 without further checking when the operator has updated the approved training program (when applicable) and flightcrew bulletins to reflect RVR 600 authorization.

G. The following is an example of Table 1 with data inserted. If an operator is not authorized to conduct those

kinds of CAT III operations with a particular airplane, or if the operator does not need special operational equipment, put N/A under the appropriate column (do not delete or leave any cells blank).

explicitly required by the regulations and/or the AFM. For new CAT III operators, inspectors must coordinate the operational equipment requirements with the AWOPM during normal review processing.

NOTE: Include only that equipment which is NOT

Table 1 CAT III Approach and Landing Minimums						
Airplane M/M/S	Type of HGS/ Autoland System*	Type of Rollout System*	DH/AH	Lowest RVR	Field Length Factor	Special Operational Equipment and Limitations--
B-737-232B- 737-247B-	FP	N/A	50 DH	600	1.15	N/A
B-737-35B B-737-3 B7B-737- 3L9	FP	N/A	50 DH	600	1.15	Either Autoland or HGS must be operable
B-737-832	FP	N/A	50 DH	600	1.15	Either Autoland or HGS must be operable
A-320-214	FO	FO	100 AH	300	1.15	1.30 required if thrust reverser or antiskid inoperative below 600 RVR
B-747-47UF	FO	FO	100 AH	300 feet (75 meters)	1.15	Anti-skid and thrust reverser system must be fully operative for operations below RVR600.
B-737-301	FP	N/A	50 DH	600	1.15	N/A
B-757-225	FO	FO	50AH	300	1.15	1.30 required if thrust reverser or anti-skid inoperative below 600 RVR
B-727-277, B727-2D4	FP	N/A	DH 50	600	1.15	
B-757-212B- 757-232B- 767-432	FO	FO	50 AH	300	1.15	N/A
B-767-222	FO	FO	100 AH	300	1.15	Use 1.3 if autobrake is inoperative
A319-112	FO	FO	100 AH	300	1.15	1.30 required if thrust reverser or antiskid inoperative below 600 RVR
B-777-236	FO	FO	50AH	700	1.15	N/A
B-777-236	FO	FO	50AH	300	1.3	N/A
DC-10-10F	FO	FO	100 AH	300	1.15	Ground speed indicating system
MD-11F, MD-10-30F	FO	FO	100 AH	300	1.15	Ground speed indicating system

Enter: *N/A = Not Applicable; FP = Fail-passive Landing or Rollout Control System; FO = Fail-operational Landing or Rollout Control System; (i.e., FP/FO systems include autoland and head-up guidance systems (HGS));

H. Additional information.

(1) Some Joint Aviation Authorities (JAA) member States apply a DH (as opposed to an AH) to operations at or below RVR 600 because of instrument landing system (ILS) facility integrity concerns.

(2) As part of FAA/JAA harmonization, it was agreed that U.S. operators could continue to use AH when

using an FO system in accordance with its OpSpec authorization.

1. Required RVR Reporting Equipment. The RVR reporting equipment authorizations were expanded to enable the use of new and more robust Joint Aviation Regulations and AC 120-28, as amended, certification criteria for auto-light or guidance landing system(s) with FP rollout control or flight guidance landing systems.

(1) OpSpec/MSpec C060 allows touchdown RVR 600, mid-RVR 400, rollout RVR 400 (600/400/400) for appropriate FP landing/rollout systems and 400/400/400 for FO landing systems with FP rollout control or flight guidance landing systems.

(2) Note that to use the touchdown RVR 600 with mid-/rollout RVR 400, published runway landing minima of RVR 400 or lower is required.

(3) Mid- and rollout RVR 400 cannot be used at runways where RVR 600 is the lowest published RVR minima.

(4) RVR 300/300/300 is allowed for FO landing systems with FO rollout control or flight guidance landing systems.

(5) The operator or program manager is not authorized to conduct operations using an RVR lower than the published minimums at any runway (domestic or foreign) even if the operator or program manager is authorized to conduct CAT III operations at a lower RVR than is published for that approach.

J. The crosswind component allowed is either less than the AFM's crosswind limitations, or 15 knots or less, whichever is more restrictive. This should be reflected in the approved training program and flightcrew bulletins.

K. Authorized CAT III Airports and Runways. With the issuance of OpSpec/MSpec C060, the operator/program manager is authorized to conduct CAT III operations at airports and runways using an approved part 97 CAT III instrument approach procedure unless a restrictive Notice to Airmen (NOTAM) is issued for that approach. Domestic airports and runways (that have no restrictions) do not have to be individually listed in OpSpec/MSpec C060; only foreign airports and runways approved for CAT III operations need to be specifically identified and listed in OpSpec/MSpec C060.

(1) *Foreign Airports and Runways.* CAT III operations may be authorized at the foreign airports and runways listed in Table 2 from the selection list provided for Table 2.

(2) *U.S. Facilities with Restrictions or Conditions.* The U.S. ILS facilities provided in Table 3 of C060 are approved only for the specific aircraft to conduct CAT III operations. The characteristics of the pre-threshold terrain at these facilities may cause abnormal performance in flight control systems. Additional analysis or flight demonstrations are required for each **aircraft type** prior to approval of CAT III minima. Publication of a 14 CFR part 97 standard instrument approach procedure or additional operators and their aircraft may be approved by the regional all weather operations staff as provided in AC 120-28, appendix 8, current edition. Approved aircraft are equipped with either autoland or HGS equipment. The restrictions at U.S. facilities for the certificate holder are provided as selectables for

listing in Table 3 of OpSpec C060. If applicable, Providence, RI, (KPVD) should be selected and listed with the following condition: "CAT III authorized with TDZ and RO RVR sensors, both are controlling. Mid RVR used from adjacent runway."

L. Inoperative Lights. OpSpec/MSpec C359 authorizes specific minima for part 97 CAT II and III approaches when the touchdown zone and centerline lights are inoperative.

M. Lower Landing Minimums Maintenance Program. The operator/program manager must maintain the aircraft and equipment listed in Table 1 of OpSpec/MSpec C060 in accordance with its approved lower landing minimums maintenance program or inspection program, as applicable.

N. Non-Standard Requests. All requests for operational non-standard OpSpec/MSpec authorizations must be submitted to the Air Transportation Division, AFS-200, using the non-standard request policy outlined in Order 8400.10, volume 3, chapter 1, section 2, paragraph 41, Procedures for Requesting Nonstandard Authorizations.

O. For part 129 Operations, Foreign Air Carriers and Foreign Operators of U.S.-Registered Aircraft Engaged in Common Carriage, see volume 2, chapter 6.

OPSPEC/MSPEC C061 - FLIGHT CONTROL GUIDANCE SYSTEMS FOR AUTOMATIC LANDING OPERATIONS OTHER THAN CATEGORIES II AND III.

A. C061 authorizes an operator to use a flight control guidance system with automatic landing capabilities to touchdown. 14 CFR §§ 121.579(c) and 135.93(d) specify this type of operation must be authorized by OpSpecs. A part 91K Program Manager is issued MC061, if applicable. Before issuing C061, the POI must determine the following:

(1) The AFM permits use of the flight control guidance system (autoland system) to touchdown;

(2) Training on the use of the flight control guidance system and autoland procedures to touchdown is provided to flight crewmembers; and

(3) The operator continually maintains flight control guidance and autoland systems in accordance with an approved maintenance program for autoland operations.

B. The airplanes (make/model) and the flight control guidance systems (manufacturer/model) authorized for this type of operation must be listed in C061a.

C. AC 120-67, Criteria for Operational Approval of Auto Flight Guidance Systems, provides additional information.

OPSPEC/MSPEC C062 - MANUALLY FLOWN FLIGHT CONTROL GUIDANCE SYSTEM CERTIFIED FOR LANDING OPERATIONS OTHER

THAN CATEGORY II AND III.

A. OpSpec/MSpec C062 is optional for Part 121, 135, and 91K operations to authorize operators to use manually flown flight control guidance systems to conduct approach and landing operations to fly a CAT I ILS using an HGS. C062 is issued to use an HGS just as C061 is issued to use an autoland system for other than CAT II or CAT III operations.

(1) This authorization is independent of CAT II/III authorizations. Typically this authorization is issued prior to CAT II/III authorizations and is kept after the issuance of CAT II/III authorizations.

(2) FAA Order 8400.13 also provides credit for lower than standard CAT I minimums using HGS or an autoland system to touchdown.

(3) It is required to list series of aircraft in addition to make/model due to the distinct differences in series of models (especially in the newer aircraft.). The aircraft listed must have a manual flight control guidance system installed and certified for manually flown landings (HGS).

B. C062 is not required to be issued to fly a CAT I ILS when the HGS CAT III guidance is not used to touchdown. Neither C061 or C062 is required when the autoland or heads-up guidance system (HGS) are disconnected prior to or not used to touchdown.

C. NTSB safety recommendation A-99-40 recommends the FAA "issue a flight standards information bulletin that directs principal operations inspectors to ensure that MD-11 training programs provide simulator instruction in the proper procedure for autopilot disengagement and the subsequent manual control of the airplane." As a result, Flight Standards recommends that POIs ensure that each operator conducting operations in an MD-11:

(1) Has included in its company flight manual information regarding the potential for pitch attitude upsets caused by improper operation of the autopilot and disseminate that information to each flight crewmember of the MD-11 and;

(2) Has included simulator instruction in the proper operating procedure for autopilot disengagement and subsequent manual control of the airplane in its MD-11 initial, upgrade, recurrent, transition, and re-qualification training programs.

D. See OpSpec/MSpec H111 for the helicopter equivalent of this authorization.

OPSPEC/MSPEC C063 - U.S. IFR RNAV DEPARTURE PROCEDURES, RNAV ROUTES, AND RNAV STANDARD TERMINAL ARRIVALS.

A. Operations specification/management specification (OpSpec/MSpec) C063 is used to authorize operators to

conduct part 97 U.S. IFR terminal and en route RNAV departure procedures (DP), RNAV routes, and RNAV standard terminal arrivals (STAR) in the National Airspace System (NAS). The term RNAV DP includes Standard Instrument Departures (SID) and Obstacle Departure Procedures (ODP).

B. If an operator's aircraft are not eligible (properly equipped) and/or its flightcrews are not appropriately trained to conduct RNAV "Type A" or "Type B" DPs and STARs, then OpSpec/MSpec C063 should not be issued. Advisory Circular (AC) 90-100, as amended, U.S. Terminal and En Route Area Navigation (RNAV) Operations, provides guidance for operators regarding operations on RNAV Q-routes, RNAV DPs, and RNAV STARs.

C. U.S. part 97 RNAV DPs and STARs throughout the NAS are designated as Type A or Type B and published in accordance with part 97.

(1) Current and new terminal RNAV DPs and STARs are charted as either "Type A" or "Type B" to reflect the track-keeping accuracy requirements specified in AC 90-100, as amended.

(2) RNAV routes designated as domestic Q-routes are being developed for areas throughout the National Airspace System (NAS) in accordance with AC 90-100, as amended. An authorization for Type B DPs and STARs also constitutes an authorization for the aircraft and flightcrew to conduct operations over domestic Q-routes. OpSpec C063 provides the appropriate selections.

(3) This guidance, OpSpec/MSpec C063, and AC 90-100, as amended, does not apply to RNAV routes in Alaska or routes designated as Q-routes in the Gulf of Mexico.

D. Some important definitions as they relate to this authorization:

(1) *Descend Via*. An air traffic control instruction issued to pilots flying RNAV STARs or Flight Management System Procedures (FMSP). The instruction is issued to enable pilots to vertically navigate on an arrival procedure as published.

(2) *Flight Management System Procedure (FMSP)*. An RNAV arrival, departure, or approach procedure developed for use by aircraft equipped with a Flight Management System (FMS).

NOTE: The number of FMSPs in the NAS is limited and FMSP criteria are no longer preferred for the design of RNAV procedures.

(3) *RNAV Q-Route*. An RNAV route within the Contiguous United States requiring system performance by GPS or DME/DME/IRU RNAV systems satisfying the criteria in AC 90-100, as amended. While operating on Q

Routes, an aircraft's track-keeping accuracy must remain bounded by ± 2 NM for 95% of the total flight time.

(4) *Instrument Departure Procedure (DP)*. Instrument departure procedures are published IFR procedures which provide obstruction clearance from the terminal area to the en route structure. There are two types of DPs, Standard Instrument Departures (SID) and Obstacle Departure Procedures (ODP).

(a) *Standard Instrument Departure (SID)*. A SID is a published IFR air traffic control (ATC) departure procedure that provides obstacle clearance and a transition from the terminal area to the en route structure. SIDs are primarily designed for air traffic system enhancement to expedite traffic flow and to reduce pilot/controller workload.

(b) *Obstacle Departure Procedure (ODP)*. A published IFR departure procedure that provides obstruction clearance via the least onerous route from the terminal area to the appropriate en route structure. ODPs are recommended for obstructions clearance unless an alternate departure procedure (such as a SID or radar vector) has been specifically assigned by ATC. The RNAV ODP must be retrievable from the FMS database and included in the filed flight plan.

(5) *Standard Terminal Arrival (STAR)*. An RNAV STAR is a published IFR air traffic control arrival procedure that provides a transition from the en route structure to the terminal area.

(6) *RNAV Type A DPs and STARs*. RNAV terminal procedures requiring system performance by GPS or DME/DME RNAV systems satisfying the criteria in AC 90-100, as amended.

(a) Type A procedures require the aircraft's track-keeping accuracy remain bounded by ± 2 NM for 95% of the total flight time.

(b) Type A sensors (DME/DME only) are not compatible with the domestic Q-route sensor requirements. For Type A equipment to be compatible with the Q-routes requirements, GPS is required or the DME/DME must be augmented by an IFR-approved GPS (TSO C129).

(7) *RNAV Type B DPs and STARs*. RNAV terminal procedures requiring system performance by GPS or DME/DME/IRU RNAV systems satisfying the criteria in AC 90-100, as amended.

(a) Type B procedures require the aircraft's track-keeping accuracy remain bounded by ± 1 NM for 95% of the total flight time.

(b) Type B procedures require a higher level of aircraft and operator performance than Type A procedures; as such, those aircraft and operators capable of flying Type B procedures may also fly Type A procedures.

(c) Type B procedures require a higher level of aircraft and operator performance than the domestic Q-routes; as such, those aircraft and operators capable of flying Type B procedures may also fly the domestic Q-routes.

E. Training. An operator's pilot training program should address the following areas:

(1) Operating procedures in AC 90-100, as amended;

(2) Pilot knowledge requirements and training described in AC 90-100, as amended;

(3) Importance of reducing flight technical error on RNAV procedures via use of equipment such as flight director and/or autopilot;

(4) Recognition that some manually selectable aircraft bank-limiting functions might reduce the ability to satisfy ATC path expectations, especially during large angle turns;

(5) Procedures for verification that the correct procedure and runway are entered into the navigation system database prior to departure, and

(6) Required climb gradients on RNAV DPs and related aircraft performance requirements.

F. Aircraft Eligibility. Operators and pilots should use the guidance in AC 90-100, as amended, to determine their eligibility for domestic U.S. RNAV routes and terminal procedures. For the purpose of this authorization, "compliance" means meeting operational and functional performance criteria.

NOTE: Aircraft compliant with AC 90-45A, Approval of Area Navigation Systems for Use in the NAS, may not be compliant with the criteria in AC 90-100, as amended.

(1) Type B and domestic Q-routes require DME/DME/IRU sensors and/or GPS inputs. Due to gaps in the DME infrastructure of the NAS, Type B and Q-routes require IRU sensor inputs to augment DME/DME, which is often referred to as DME/DME/IRU.

(2) The operator is responsible for providing equipment eligibility documented by the AFM. If the operator is unable to determine that the aircraft is eligible, it must provide the following information to the CHDO, as applicable:

**Type A, Type B, and Domestic Q-Routes
Require the following documentation:**

- ²RNAV system make, model, and part number(s)
- ²Evidence of compliance with AC 90-100 requirements
- ²Crew operations procedures
- ²Crew training program
- ²Any other pertinent information

The following describes specific requirements:

Type A specific	Type B specific	Q-Route specific
Evidence of ± 2 NM track keeping accuracy	Evidence of ± 1 NM track keeping accuracy	Evidence of ± 2 NM track keeping accuracy
Proof the RNAV system meets the required functions for Type A operations	Proof the RNAV system meets the required functions for Type B operations	Proof the RNAV system meets the required functions for Q-Route operations
Specify GPS or DME/DME	DME/DME/IRU or GPS	DME/DME/IRU or GPS

(3) Based on the information supplied by the operator the principal operations inspector (POI) must coordinate with the principal avionics inspector (PAI) to determine equipment eligibility for RNAV DPs/STARs via the AFS-410 website at: http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs410/.

(a) The PAI determines the proper nomenclature of the manufacturer's make/model/software version and that the area navigation system is installed in accordance with approved data and meets the criteria of the most recent version of AC 90-100, as amended.

(b) If the CHDO is unable to determine equipment eligibility for RNAV DPs/STARs via the AFS-410 website, contact AFS-410 for guidance.

(4) Some RNAV systems may not be able to perform multiple STAR runway transitions because of database limitations. Operators of such RNAV systems must either procure a "tailored" database and charts to allow the use of multiple runway transitions or have procedures for the flightcrew to advise ATC regarding their inability to accept a clearance involving a STAR with multiple runway transitions.

(5) After the principal inspectors agree that the operator's navigation equipment, procedures, and flightcrew training are eligible for RNAV Type A and/or Type B DPs and STARs operations, OpSpec/MSpec C063 may be issued indicating the appropriate authorizations.

G. Certificate Holders and Program Managers Authorized European Precision RNAV (P-RNAV) Operations. The criteria in AC 90-100, as amended, required for U.S. RNAV procedures, are generally consistent

(but there are exceptions) with the criteria for P-RNAV operations in Europe.

(1) P-RNAV terminal and en route operations require a track-keeping accuracy of ± 1 nautical mile for 95% of the flight time.

(2) If an operator has met the requirements for and is authorized P-RNAV in OpSpec B034, that operator may also be eligible for RNAV Type additional verification of equipment eligibility. POIs should still evaluate their operator's procedures and training to ensure compliance with AC 90-100, as amended.

(3) Appropriate P-RNAV references are:

(a) AC 90-96, Approval of U.S. Operators and Aircraft to Operate Under Instrument Flight Rules (IFR) in European Airspace Designated for Basic Area Navigation (B-RNAV) and Precision Area Navigation (P-RNAV).

(b) JAA TGL-10.

(c) Order 8400.10, Volume 3, Section 4, OpSpec B034.

(4) References:

- 14 CFR sections 91.123 and 91.205;
- 14 CFR Part 95;
- 14 CFR Section 121.349;
- 14 CFR Section 125.203;
- 14 CFR Section 129.17;
- 14 CFR section 135.165;
- FAA Order 7110.65

OPSPEC C064 - TERMINAL AREA IFR

OPERATIONS IN CLASS G AIRSPACE AND AT AIRPORTS WITHOUT AN OPERATING CONTROL TOWER--NON SCHEDULED PASSENGER AND ALL-CARGO OPERATIONS. C064 authorizes an operator to conduct nonscheduled passenger and all-cargo (scheduled and nonscheduled) terminal area IFR operations in Class G airspace or into airports without an operating control tower, with the following limitations and provisions:

A. Before authorizing C064, the POI must determine that the operator has a method or procedure for obtaining and disseminating necessary operational information. This operational information must include the following:

(1) The airport is served by an authorized instrument approach procedure (and departure procedure when applicable);

(2) Applicable charts for crewmember use;

(3) Operational weather data from an approved source for control of flight movements and crewmember use;

(4) Status of airport services and facilities at the time of the operation; and

(5) Suitable means for pilots to obtain traffic advisories.

(6) *Sources of Traffic and Airport Advisories.*

B. Certificate holders may be authorized to use any two-way radio source of air traffic advisory information listed in the AIM (for operations in U.S. airspace) or equivalent aeronautical information publications (for foreign operations).

(1) These sources include common traffic advisory frequencies, UNICOM, MULTICOM, and flight service stations.

(2) In those cases where two sources are listed at the same airport, inspectors must ensure the operator's manuals have procedures which require pilots to continuously monitor and use the traffic advisory frequency when operating within 10 nautical miles of the airport. The procedures should require communication concerning airport services and facilities to be completed while more than 10 miles from the airport.

(3) At some airports no public use frequencies may be available. In those cases, a certificate holder must arrange for radio communication of essential information including surveillance of local or transient aircraft operations by ground personnel. Ground personnel who operate a company radio for airport status and traffic advisory must be able to view airspace around the airport.

C. OpSpecs C064 and/or C080 may need to be issued to the certificate holder in order for the OpSpec C081, Special Non 14 CFR Part 97 Instrument Approach or Departure

Procedures, to be issued which authorizes the use of special (non-Part 97) instrument approach or departure procedures.

D. C064 is applicable to Part 121, 125, 121/135, and 135 certificate holders. For helicopter authorization, see OpSpec H121. Part 91K Program Managers should use MSPEC A014 for Class G operations.

OPSPEC C065 - POWERBACK OPERATIONS WITH AIRPLANES.

A. C065 authorizes the use of powerplant reversing systems for rearward taxi operations. Before issuing C065, the POI must determine whether the operator meets requirements discussed in AC 120-29, as amended. Airplane types (make/model/series) authorized for powerback operations must be listed in C065. Airports where powerback operations are authorized must also be listed. If the POI and/or operator determine that restrictions to powerback operations are required at certain gates or ramp areas, the restrictions must be described (adjacent to the airport name) in the "Restrictions and Limitations" column. OpSpecs worksheets provide a template for listing authorized airplanes, airports, and restrictions.

B. Section 121.133, 121.135, 135.21, and 134.23 require certificate holders to prepare manuals setting forth procedures and policies which must be used by ground and maintenance personnel in conducting their ground operations. Sufficient procedures must be established to maintain an adequate level of passenger and company ground personnel safety during ramp operations. Procedures should emphasize safety during boarding and deplaning of passengers or cargo, specifically during times when an engine(s) may be running or a propeller(s) is turning during ground operations. Procedures should include, as a minimum, a means for defining no-access areas around the propeller(s) as well as the landing gear and tugs during push and ground marshaling operations. Policies should provide that an adequate number of ground personnel are assigned to ensure safety of company personnel and passengers.

C. Procedures for pushback and ground marshaling activities should be clearly defined and should include safety precautions and signals, and should ensure adequate visibility of assigned personnel during the time of aircraft movement.

D. FAA air carrier surveillance programs should emphasize increased awareness by inspectors and the strict need to follow safety procedures around turning propellers, in marshaling and pushback procedures, and/or other ground activities.

E. Additional references can be found in NTSB Recommendations 91-297, 91-298, and 93-146, and ACOB 8-94-2, Safety in Ground Operations.

OPSPEC C066 - TURBOJET AIRPLANE TAKEOFF

**OPERATIONS IN TAILWIND CONDITIONS.
CANCELLED BY HBAT 04-05 AS INCORPORATED
BY CHANGE 32.**

**OPSPEC C067 - SPECIAL AIRPLANE
AUTHORIZATIONS, PROVISIONS, AND
LIMITATIONS FOR CERTAIN AIRPORTS.**

A. General. OpSpec C067 authorizes certificate holders to operate airplanes into certain airports. The authorizations include the following:

(1) Part 121 air carriers to conduct passenger-carrying operations into uncertificated airports (see C below),

(2) Part 121 air carriers to conduct operations at airports that require curfew limitations for flights into or out of specific airports (see D below),

(3) Part 121 or 135 air carriers to conduct operations into airports that have **operational** considerations such as special aircraft performance charts and equipment, special lighting (i.e., flare pots, etc.), or unpaved runways, (See D below.)

(4) Part 121 or 135 air carriers to conduct operations using the Reginald Bennett International Runway ReflectORIZATION System in Alaska (see D below), and

(5) Part 135 transport category airplane deviations from Section 135.376(a)(3) or Section 135.379(d). (See D below and Order 8400.10, vol. 4, chap. 3, section 5, Selected Practices)

B. Authorizations Where Other OpSpecs are Applicable.

(1) OpSpec C050 for “special PIC qualification airports” is applicable to the authorization described in 14 CFR Section 121.445. **Do not list special PIC qualification airports in OpSpec C067 unless one of the items in subparagraph A above also applies.**

(2) OpSpec C081 should be used for listing the airports/runways where AFS-400 has approved specific “Special” instrument procedures for a certificate holder.

(3) OpSpec C058 is used for authorizing specific foreign terminal instrument procedures.

(4) OpSpec C064 and C080 are used for authorizing a certificate holder to conduct airplane operations in airport terminal areas in Class G and E airspace.

(5) OpSpec C070 is used for authorizing airports where certificate holders conduct scheduled operations.

C. Uncertificated Airports.

(1) In accordance with section 121.590 (c) and (e), a certificate holder may be authorized to conduct passenger-carrying airplane operations into an airport (non-military)

operated by the U.S. Government that is not certificated under part 139 if those airports meet:

(a) The equivalent safety standards for airports certificated under part 139, and

(b) The equivalent airport classification requirements under part 139 to serve the type airplanes to be operated and the type of operations to be conducted.

(2) Authorization to use such airports may be granted by entering the location/identifier of each airport, and the M/M (if applicable) of the airplanes to be operated in Table 1:

(a) Operators should obtain permission from the airport manager of non-military airports to operate at these airports before starting operations.

(b) This permission is not needed for operations at joint-use civil and military airports.

(3) The FAA may authorize a certificate holder to conduct passenger-carrying airplane operations into a domestic military airport that is not certificated under part 139 (by selecting this text in the OpSpec) if the certificate holder ensures the following in advance of starting operations into that airport.

(a) Certificate holders should obtain permission from the Base Commander of military airports that are not certificated under part 139 in advance of commencement of operations.

(b) In accordance with the requirements of section 121.590, certificate holders must ensure that the airport:

i. Meets the equivalent safety standards for airports certificated under part 139 and

ii. Meets the equivalent airport classification requirements under part 139 to serve the type airplanes to be operated and the type of operations to be conducted.

D. Other Special Authorizations.

(1) Other special authorizations include those that may require special operational considerations and special flight crewmember training. (See guidance in Order 8400.10, volume 4, chapter 3, section 5, paragraph 1029.) These authorizations may include but are not limited to:

(a) operations into airports with special runway markings, such as flare pots or trees;

(b) high altitude airports with special airplane performance requirements;

(c) airports in or near precipitous terrain (Section 135.363(h)); and

(d) airports with unpaved runways or runways constructed on frozen lakes and rivers.

(2) Special authorization for conducting operations at airports in Alaska. For authorization to conduct airplane operations using the Reginald Bennett International (RBI) Runway Reflectorization System in Alaska:

(a) The air carrier must provide a station agent at the airport trained to give wind information to the flightcrew and

(b) The air carrier must train its flightcrews on this specific system in accordance with an approved training program. The training program must be approved in accordance with the following criteria:

i. Each pilot must receive initial and follow-on recurrent training in accordance with the company approved training program.

ii. Ground and flight personnel must complete initial training before participation with this authorization.

iii. Recurrent training must be completed every 12 calendar months following completion of initial training.

iv. Whenever a person who is required to take this recurrent training completes the training in the calendar month before or the calendar month after the month in which this recurrent training is required, that person is considered to have completed it in the calendar month in which it was required.

(c) The sample Table 1, below, shows how to provide authorization for conducting operations after curfew hours at specific airports or use of the RBI Runway Reflectorization system at specific airports in Table 1 of OpSpec C067.

(3) Unpaved runways for turbojet operations. To use an airport with unpaved runways, an operator is required to have special operational procedures and flight crew-member training. For approval of operations at an airport with unpaved runways the POI must identify the airport and reference the appropriate section of the operator's manuals in Table 1 of OpSpec C067. See 8400.10, volume 4, chapter 3, section 5.

(4) You may list in OpSpec C067 Flag or Supplemental destination airports that do not have an available alternate airport (in accordance with sections 121.621(a)(2) or 121.623(b)), for use by airplanes that are dispatched in accordance with the required fuel reserves set forth in sections 121.641(b) or 121.645(c).

(5) Although the FAA does not encourage operators to list aircraft limitations at certain airports during curfew hours in their OpSpecs, if an airport authority requires operators to list these limitations in their OpSpecs, then operators may list them in Table 1 of OpSpec C067. A sample of Table 1 below shows an example of limitations for air carrier operations into specific airports during curfew hours.

Sample of Table 1 Airports and Special Provisions

Airport Location/Identifier	Aircraft M/M (enter N/A if not applicable)	Special Provisions and Limitations and Special Flight Crewmember Training
PKEK, Ekwok, Alaska	N/A	A station agent is required to give wind information to the flightcrews and the flightcrew must have completed the required approved training on the RBI Runway Reflectorization System
DCA, Ronald Reagan Washington National Airport	Boeing 737-800	Limitations during the curfew hours Boeing 737-800—Max Takeoff - 159,000 pounds Max Landing – 137, 600 pounds
Tahiti Island, Society IS; PPT/NTAA	N/A	Approved as destination airport without an available alternate.

(6) Deviation from the Requirement to Obtain Obstacle Clearance Data for Takeoff. This OpSpec provides for the authorization of certain transport category airplanes a deviation from 14 CFR section 135.367(a)(3) or section 135.379(d). Guidance for this deviation authorization is

contained in Order 8400.10, volume 4, chapter 3, section 5, paragraph 1027. To authorize this deviation, it must be

listed in OpSpec A005 and the following statement must be selected in OpSpec C067:

“The certificate holder is authorized to conduct takeoff operations using transport category airplanes weighing no more than 19,000 pounds and having a seating configuration of no more than 19 passenger seats without showing compliance with part 135, sections 135.367(a)(3) and 135.379(d). This authorization is limited to only the following operations conducted:

- *At airports of 4,000 feet MSL or less field elevation*
- *On runways on which the available length of runway is equal to or greater than 150 percent of the runway required by sections 135.367(a)(1) and (2) or section 135.379(c), as applicable*
- *In weather conditions equal to or greater than straight-in Category I landing minimums for the runway being used.”*

OPSPEC C068 - NOISE ABATEMENT DEPARTURE PROFILES (NADP) ITEM 7K.

A. C068 authorizes an operator to conduct NADPs using aircraft with a maximum certificated gross takeoff weight of more than 75,000 pounds. Operators may use either or both of two standard NADPs as described in AC 91-53, Noise Abatement Departure Profiles, as amended.

B. Before authorizing this paragraph, the POI must ensure that all airplane vertical departure profiles described in the certificate holder operations and/or training manuals comply with the minimum criteria established in AC 91-53 for NADPs (Close-In and Distant) before approving paragraph C068 for the certificate holder's OpSpecs. The certificate holder shall not use any other departure profile (except as stated in 14 CFR Part 91) that is not defined within the AC.

NOTE: Use of 14 CFR Part 91 procedures does not require OpSpecs authorization. If the operator does not meet the criteria established in AC 91-53, then OpSpec C068 will not be issued.

C. Proposed exceptions to the criteria as stated in this OpSpec which would be less limiting (less than 800 feet above field elevation (AFE)) must be addressed by the certificate holder to the certificate holder's POI for concurrence by AFS-400 of the Flight Standards Service.

D. AC 91-53, effective July 22, 1993, established minimum acceptable criteria for speed, thrust settings, airplane configurations and the criteria for both the Close-In and Distant NADPs. These NADPs can be combined with preferential runway selection and flight path techniques to minimize noise impact. For helicopter information, see

AC 91-66, Noise Abatement for Helicopters.

NOTE: The Distant departure profiles requires an initiation of flaps/slats retraction prior to thrust cutback initiation with the thrust cutback initiation at an altitude of no less than 800 feet AFE. Configuration changes necessary to meet regulatory performance or operations requirements shall not be affected by this procedure. For those airplanes that have a performance requirement to reduce takeoff flaps to an intermediate takeoff flap setting at 400 feet AFE or above, the next flap/slats retraction should be initiated at an altitude of no less than 800 feet AFE.

OPSPEC C069 - TURBOJET AIRPLANE TAKEOFF OPERATIONS IN TAILWIND CONDITIONS NOT TO EXCEED 10 KNOTS. (SPLIT FROM C066) CANCELLED, HBAT 04-05 AS INCORPORATED BY CHANGE 32..

OPSPEC C070 - AIRPORTS AUTHORIZED FOR SCHEDULED OPERATIONS. (GUIDANCE TO BE UPDATED).

A. Under 14 CFR Part 119.49, the OpSpecs must prescribe the authorizations and limitations for each type of operation. All regular airports shall be listed in the OpSpecs of all operators conducting scheduled operations. This includes domestic operations, flag operations, and commuter operations. Provisional and refueling airports shall be listed for 14 CFR Part 121 domestic and flag operations:

- Airport name
- Three letter identifier of the airport
- Airplanes authorized to use the airport
- A notation as to whether the airport is regular (R), refueling (F), or provisional (P) for each type of airplane authorized (refueling and provisional airports are not applicable to Part 135 operators).

NOTE: If an airport is designated as provisional, the regular airport or airports for which it serves as a provisional airport must be annotated. (Except in unique situations, an airport should not be designated as a provisional airport if it is located more than 100 statute miles outside of the metropolitan area served by the regular airport.)

B. If the operator provides a list of airports to be incorporated into C070, this list must provide the same type of information discussed in subparagraph A. This list must be annotated with the effective date of the listing.

C. C070 specifies that the operator must maintain a list of alternate airports which can be used. This list of alternates may be integrated into the list provided by the

operator, if desired. The POI should occasionally inspect the list of alternates to determine airport and airplane compatibility.

OPSPEC C071 - AUTOPILOT ENGAGEMENT AFTER TAKEOFF AND DURING INITIAL CLIMB FOR AUTO FLIGHT GUIDANCE SYSTEM (AFGS).

A. OpSpec C071 is an optional authorization applicable to certificate holders operating in accordance with parts 121, 125, and 135; there is no MSPEC C071 for part 91K operators. The authorization to engage the AFGS at an altitude lower than 500 feet after takeoff and the initial climb segment requires authorization through OpSpec C071 in accordance with the following criteria:

(1) For certain aircraft, the AFM may specify a minimum altitude that has been satisfactorily demonstrated for AFGS engagement after takeoff and the initial climb phase of flight that is lower than 500 feet:

(a) If the FSB report sets a higher altitude than the AFM, the higher FSB altitude would be the authorized altitude; or

(b) If an FSB report is not available, or does not address autopilot engagement heights, the lowest authorized altitude shall be the altitude specified in the AFM.

(c) If the FSB report sets a lower altitude than the AFM, the AFM value shall be used.

(d) Operator training material and pilot training program(s) have been reviewed, incorporating appropriate changes, as necessary. The flightcrew must have successfully completed the certificate holder's approved training program curriculum segment(s) for AFGS operations at the minimum engagement altitude(s).

(e) The established maintenance and reliability program must be checked. This program should be designed to ensure that the equipment functions to the prescribed levels as delivered by the manufacturer, and include maintenance and preventative maintenance. Appropriate manuals should be referenced for compliance with manufacturers' recommendations.

(2) If the Aircraft Flight Manual (AFM) does not specify an altitude for engaging the AFGS for the initial climb, the lowest minimum altitude authorized is 500 feet, in accordance with CFR Sections 121.579(a), 125.329(a), or 135.93(a), as applicable.

(a) The FSB Report for the aircraft may also contain further conditions or limitations regarding AFGS engagement after takeoff and initial climb.

(b) If there is uncertainty about applying AFM performance information, AOM, GOM, or FCOM procedures, or if there is a conflict between AFM and AOM, GOM, or the FCOM, the Aircraft Evaluation Group (AEG) should be consulted.

(c) Principal Inspectors approving, or who have approved, performance-related takeoff procedures and training for systems not specifically designed with a takeoff mode should coordinate with the cognizant AEG.

(d) The AEG, in coordination with the cognizant Aircraft Certification Office (ACO), will concur or nonconcur with the procedure or propose conditions and limitations, if any, as appropriate.

B. The AFM is the document which contains "FAA-approved" "performance" and "limitations." Any use of the autopilot and/or flight director modes should be consistent with both the AFM and the applicable operating rules (e.g., CFR Section 121.189, Airplanes: Turbine Engine Powered: Takeoff Limitations).

(1) The AFM establishes the basis to be used when developing the Airplane Operations Manual (AOM) or the Flight Crew Operating Manual (FCOM).

(2) While AOMs, General Operations Manuals (GOM), and FCOMs are accepted by the FAA, they typically are not used as the means to specify performance information, and they do not supersede the limitations section of the AFM.

(3) The Flight Standardization Board (FSB) Report further addresses such issues for some, but not all, aircraft types.

C. Some AOMs, GOMs, or FCOMs contain takeoff procedures such as using 1/2-bank mode, go-around mode, or capturing indicated airspeed (IAS) for systems not specifically designed with a takeoff mode and should not, by procedures themselves, be used as the basis for approving procedures and training programs that relate to achieving necessary takeoff performance.

D. Advisory Circular 120-67, Criteria for Operational Approval of Auto Flight Guidance Systems, gives additional criteria applicable to operators using commercial turbojet and/or turboprop aircraft operating under 14 CFR Parts 121, 125, and 135.

OPSPEC C072 - ENGINE-OUT DEPARTURE PROCEDURES WITH APPROVED TEN-MINUTE TAKEOFF THRUST TIME LIMITS.

A. OpSpec C072 is optional and authorizes the certificate holder to use engine-out departure procedures under the provisions of 14 CFR Parts 125, 121, and/or 135, as appropriate, using airplanes that are equipped with powerplants that are approved 10-minute takeoff thrust time limits in accordance with the provisions of this guidance and the OpSpec C070.

B. The manufacturer's Airplane Flight Manuals (AFM) must include takeoff obstacle climb data for use with a 10-minute engine-out takeoff thrust time limit. This AFM data must be applied to the certificate holder's airplane engine-

out takeoff obstacle analysis to provide critical obstacle clearance in the event of an engine failure during takeoff.

(1) The FAA Transport Airplane Directorate and the Engine and Propeller Directorate have developed a procedure to certify and revise airplane manufacturer's Airplane Flight Manuals (AFM) to include takeoff obstacle climb data for use with a 10-minute engine-out takeoff thrust time limit.

(2) Previously, airplane operators AFM takeoff data only provided data for a 5-minute takeoff thrust time limit. Airplane operators may obtain revised AFM's from the airplane manufacturer's for specific airplane/engine combinations. This AFM data may then be applied to the airplane operator's engine-out takeoff obstacle analysis to provide critical obstacle clearance in the event of an engine failure during takeoff.

C. Since it is assumed that not all airplanes operated by an air carrier will have their AFM's revised for 10-minute takeoff thrust data some operator's airplane takeoff thrust limits and may be restricted to 5-minutes while other airplanes in the same fleet may have the 10-minute restriction, certain criteria must be addressed to inform the pilot which limit is applicable in the event of an engine failure during takeoff.

D. The certificate holder's approved operations manual and training program must include the engine-out departure procedures specifically designed to use the 10-minute takeoff thrust time limits. These departure procedures require that airplane operator's training programs, manuals, and procedures address the following areas:

(1) Air carrier performance engineers evaluation of engine-out departure procedures specifically designed to use the 10-minute takeoff thrust time limit.

(2) An FAA-approved flight manual revision outlining operational procedures with specific airplane/engine lists that involve the 10-minute takeoff thrust time limit.

(3) An FAA-approved dispatch or similar acceptable system which provides specific 10-minute engine-out takeoff thrust departure procedure information to the pilot for the impending flight concerning the airport, aircraft weight, and departure path.

(4) Information readily available to the pilot that indicates airplanes authorized for 10-minute takeoff thrust operations in the event of an engine failure on takeoff.

(5) Pilot knowledge of the designed engine-out departure procedure which uses the 10-minute takeoff thrust time limit.

(6) Pilot training of the 10-minute takeoff thrust time limit departure flight procedure.

OPSPEC C073 - IFR APPROACH PROCEDURES USING VERTICAL NAVIGATION (VNAV). (HBAT 99-08 TO BE INCORPORATED).

OPSPEC C074 - STRAIGHT-IN CATEGORY I PRECISION APPROACH PROCEDURES AND IFR LANDING MINIMUMS-ALL AIRPORTS. (SPLIT FROM C053). C074 authorizes the lowest straight-in Category (CAT) I precision approach procedures and IFR landing minimums. These precision approaches are also referred to as Category I, ILS, MLS, or GLS (GPS landing system) approach procedures.

A. The visibility requirement for MALS and SALS approach light configurations was changed from 3/4 statute mile and 4000 RVR to 5/8 statute mile and 3000 RVR to allow credit for a full lighting system. Also Note 1 regarding requirements for a full ILS was removed, as this information is covered in other FAA publications. Credit is given for autoland in subparagraph b.

B. In subparagraph d, "Limitations and Provisions for Instrument Approach Procedures at Foreign Airports" precision approaches are now referred to as "ILS, MLS, or GLS" and reference is made to the Joint Aviation Authorities (JAR-OPS-1).

C. C074 expands the approved equipment list to include the use of flight directors (FD) by authorized operators flying "Special Aircrew and Aircraft Certification Required" (special CAT I) minimums. CAT I approach charts may depict two blocks of minimums: the standard and the "Special Aircrew and Aircraft Certification Required" minimums. At selected locations, POIs should allow authorized operators to use the special minimums, provided an approved autopilot with automatic tracking capability (approach couple), and approved heads-up guidance system (HGS), or FD, approved for CAT I operations, is used on the approach.

(1) *FAA Approval.* Both air carrier and private operators may continue to use the standard CAT I minimums without alteration of current authorizations or procedures; however, operators must obtain FAA approval to use the special CAT I minimums. To obtain this approval, field offices will issue authorizations to general aviation operators by using FAA Form 7711-1, "Certificate of Waiver or Authorization," and to air carrier operators by issuing operations specifications.

(2) *Conditions of Approval.* Before issuing an authorization to use special CAT I minimums, inspectors

shall ensure that each operator meets the following conditions:

(a) Aircraft and Associated Aircraft Systems.

The authorized aircraft must be equipped with an approved autopilot approach coupler, HGS, or FD system that provides guidance to decision height (DH). Inspectors must establish that the approach coupler, HGS, or FD are certified for use down to an altitude of 200 feet above ground level (AGL) or lower.

(b) Flightcrew Procedures. The Pilot-in-Command (PIC) must use the automatic flight control guidance system (AFCGS), HGS, or FD to DH or to the initiation of a missed approach, unless visual references with the runway environment are established, thus allowing safe continuation to a landing. If the AFCGS, HGS, or FD malfunctions or becomes disconnected, the PIC may not descend below standard minimums unless the runway environment is in sight.

(c) Flightcrew Qualification. PICs must have demonstrated proficiency using the AFCGS, HGS, or FD (as appropriate) on the most recent instrument proficiency check required in volume 4, chapter 2, section 5, paragraph 583B; and 14 CFR §§ 121.441; 135.297; 125.291; 61.57(e)(2); or 61.58 (as applicable).

D. For helicopter authorization, see OpSpec H117.

OPSPEC C075 - CAT I IFR LANDING MINIMUMS-CIRCLING APPROACHES. (SPLIT FROM C053).

A. OpSpec paragraph C075 is issued to operators who conduct 14 CFR Part 121, 135, and 125 operations with fixed-wing airplanes. OpSpec C075 specifies the lowest minimums which can be used for Category I circling approach maneuvers. It also provides special limitations and provisions for instrument approach procedures at foreign airports. See volume 4, chapter 2 for more information on required training for circling maneuvers.

B. For the purpose of this OpSpec authorization, any operator issued this paragraph is authorized to conduct circle-to-land maneuvers. In any weather condition, a certificate holder that permits its pilots to accept a "circle to land" or a "circle to runway (runway number)" clearance from ATC conducts circle-to-land maneuvers. The term "circle-to-land maneuver" includes the maneuver that is referenced in various regulations, publications, and documents as "circle-to-land maneuver," "circling," "circling maneuver," "circle," "circling approach," and "circling approach maneuver." With regard to pilots, "conducting" a circle-to-land maneuver means to act as the pilot flying when a circle-to-land maneuver is being conducted.

C. Aircraft operating under IFR during all circle-to-land maneuvers are required to remain clear of clouds. If visual reference to the airport is lost while conducting a circle-to-

land maneuver the missed approach procedure specified for the applicable instrument approach must be followed, unless an alternate missed approach procedure is specified by ATC.

D. Each certificate holder who is issued OpSpec C075, and who is also required to have maneuver descriptions/procedures, must publish in its training manual, or must incorporate in its training manual by reference to another approved manual, a detailed description of the procedures used to conduct a circle-to-land maneuver. Pilots must conduct circle-to-land maneuvers using those procedures.

E. Part 121 certificate holders may conduct circle-to-land maneuvers under two separate provisions contained within OpSpec C075.

(1) With flight training and flight checking. Part 121 certificate holders whose pilots have been trained and checked for the circling maneuver in accordance with 14 CFR Part 121, Appendix E and Appendix F, or in accordance with an Advanced Qualification Program (AQP), may conduct a circle-to-land maneuver:

- at the published circling landing minimums for the instrument approach to be used; or
- at the minimums specified in the chart contained within the OpSpec paragraph, whichever is higher.

(a) Appendix E does not require a Part 121 certificate holder to train a second-in-command (SIC) in the circling maneuver if the certificate holder prohibits the SIC from performing/conducting (acting as pilot-flying) a circling maneuver. However, an SIC must be trained and can be checked in those functions specific to the circle-to-land maneuver that the SIC is required to perform while acting as pilot-not-flying.

(b) Any pilot who possesses a pilot certificate restricting circling approaches to VMC conditions is not eligible to conduct circle-to-land maneuvers except as provided in paragraph E.

(2) Part 121 operations without flight training and flight checking. Certificate holders conducting circle-to-land maneuvers without training and checking must use a Minimum Descent Altitude (MDA) of 1,000 feet (HAA) or the MDA of the published circling landing minimums for the instrument approach to be used, whichever is higher. Certificate holders that conduct a circle-to-land maneuver under this provision remain under an IFR clearance and must comply with those procedures otherwise required for circle-to-land maneuvers. Certificate holders must ensure pilots are familiar with those procedures. Part 121 pilots who have NOT been trained and checked for the circling maneuver in accordance with 14 CFR Part 121, Appendices E and F, or in accordance with an Advanced Qualification Program (AQP), may conduct a circle-to-land maneuver when:

- the reported ceiling is at least 1,000 feet and the visibility is at least 3 statute miles (See Part 121, Appendix E and Appendix F);

OR

- the reported weather is at least equal to the published circling landing minimums for the instrument approach to be used, whichever is higher.

F. Part 125 certificate holders are not permitted to conduct circle-to-land maneuvers in airplanes without their pilots having been checked in that maneuver.

(1) *Section 125.291 Pilot-in-Command (PIC).*

Instrument proficiency check requirements, as required in subsection (c), are: “The instrument approach procedure or procedures must include at least one straight-in approach, one circling approach, and one missed approach. Each type of approach procedure demonstrated must be conducted to published minimums for that procedure.”

(2) *Required Part 125 SIC.* The SIC must complete the annual competency check required by section 125.287. The circle-to-land maneuver is not part of the section 125.287 competency check. However, each SIC is evaluated for flightcrew coordination.

(3) *Pilot-not-flying duties.* Each crew member can be checked in those functions specific to the circle-to-land maneuver that the pilot is required to perform while acting as pilot-not-flying.

G. Part 135 certificate holders are not permitted to conduct circle-to-land maneuvers in aircraft without their pilots having been checked in that maneuver. (Helicopter IFR circle-to-land maneuvers are authorized in OpSpec H118.)

(1) *Section 135.297 Pilot-in-Command instrument proficiency check requirements.*

(a) Section 135.297(a) does not allow “any person to serve, as pilot-in-command of an *aircraft* [emphasis added] under IFR unless, since the beginning of the 6th calendar month before that service, that pilot has passed an instrument proficiency check under this section....”

(b) Section 135.297(b) requires, “The instrument approach procedure or procedures must include at least one straight-in approach, one circling approach, and one missed approach. Each type of approach procedure demonstrated must be conducted to published minimums for that procedure.” The requirement to demonstrate a circle-to-land maneuver is applicable to both airplanes and helicopters.

(c) Part 135 single-pilot and single PIC operators are not required to have training programs. However, the circle-to-land maneuver must be successfully demonstrated in every section 135.297 instrument proficiency check.

(2) In accordance with section 135.293, a Part 135 IFR operator is required to ensure that each IFR SIC has an annual competency check. In accordance with Order 8400.10, Vol. III, Paragraph 539, a SIC need not be evaluated in “circling approaches” when an operator’s procedures restrict an SIC from conducting (acting as pilot-flying) this event in revenue service. However, each required IFR SIC is evaluated for flightcrew coordination.

(3) *Pilot-not-flying duties.* Each pilot must be trained and can be checked in those functions specific to the circle-to-land maneuver that the pilot is required to perform while acting as pilot-not-flying.

(4) The standard of competence for Part 135 instrument proficiency checks is specified in section 135.293(d). This standard is also specified in the Airline Transport Pilot Practical Test Standard (FAA-S-8081-5) and the Instrument Rating Practical Test Standard (FAA-S-8081-4).

H. For helicopter authorization, see OpSpec H118.

OPSPEC/MSPSEC C076 - CAT I IFR LANDING MINIMUMS-CONTACT APPROACHES. (SPLIT FROM C053). The certificate holder shall not use any IFR Category I landing minimum lower than that prescribed by the applicable published instrument approach procedure. The IFR landing minimums prescribed in paragraphs C053 for *nonprecision* “other than ILS, MLS, or GLS” approaches and C074 for *precision* “ILS, MLS, or GLS” approaches of these operations specifications are the lowest Category I minimums authorized for use at any airport. Those paragraphs must also be issued, as applicable. For helicopter authorization, see OpSpec H119.

OPSPEC C077 - TERMINAL FLIGHT RULES LIMITATIONS AND PROVISIONS. (FORMERLY OPSPEC B033). OpSpecs paragraph C077 is issued to all 14 CFR Part 135 on-demand turbojet certificate holders, all 14 CFR Part 121 certificate holders, and Part 129 foreign operators. OpSpec paragraph B051 “Part 121 En Route Visual Flight Rules, Limitations, and Provisions,” is applicable for Parts 121 and 129 VFR en route operations for propeller-driven aircraft and may be issued in conjunction with C077.

A. C077 provides for operations under a Charted Visual Flight Procedure (CVFP) unless operating under the provisions of 14 CFR Part 93, SFAR 50-2, or SFAR 71, if the minimums in the CVFP are lower than those listed in section 121.649, section 121.649 prevails for all Part 121 operators, conversely for Part 135 operations in class G airspace, section 135.205 prevails. There are no provisions in Section 121.649 or 135.205 for a deviation. An exemption is required if the certificate holder wants to use a CVFP with lower than standard minimums. For Part 129 operators, the applicable provisions and limitations of

Part 91 prevails.

B. The VFR weather conditions specified in 14 CFR section 91.155 may be used. However, where section 91.155(c) and (d) refers to section 91.157, “Special VFR Minimums,” the minimums set forth in section 121.649 or section 135.205, as applicable, take precedence for the Part 121 and 135 certificate holders.

C. Subparagraph b(2)(b). Uncontrolled airports can be in either controlled or uncontrolled airspace. As long as the provisions listed in this subparagraph are met, the certificate holder may operate VFR in uncontrolled airspace in the terminal area in accordance with this OpSpec. For the purpose of direct communication at uncontrolled airports, a Common Traffic Advisory Frequency (CTAF) may be utilized as long as it is associated with an air/ground communication facility. The CTAF may be a UNICOM, MULTICOM, FSS, or a tower frequency. Acceptable air/ground communication is a demonstrated reliable means to directly relay traffic advisories and information that is pertinent to conditions on and around the landing surface during the terminal phase of flight. For example: if the certificate holder adequately demonstrates to the POI its reliability to relay essential information, via radio or another type of communication, through an agent located near the landing surface, it is considered to be a “demonstrated reliable means” of communication.

D. Subparagraph b(3). In lieu of a CVFP, an approved charted visual procedure is highly recommended for all terminal VFR departures/arrivals that fall under this Operations Specification. The POI may approve that procedure. The proximity of obstacles to the departure flight path, the seeing conditions, the accuracy of the guidance and control systems, the pilot's proficiency, and the certificate holder's training, should determine the size of the area in which obstacle clearance or avoidance must be considered. The POI should take into account the airplane performance data annotated in FAA Order 8400.10, Air Transportation Operations Inspector's Handbook, Volume 4, Chapter 3.

E. Where there is an operating ATC facility and it is possible to obtain an IFR clearance, the flight must depart on an IFR flight plan, even if authorized en route VFR under B051.

(1) It is recognized that the IFR infrastructure at certain locations may not always support an expeditious departure environment. If the certificate holder is able to show that it is just as safe to depart on a VFR flight plan at certain IFR airports, they may apply for a nonstandard OpSpec prescribing VFR departure procedures for that airport. For procedures to apply for a nonstandard OpSpec authorization, see Volume 3, Chapter 1, Section 2.

(2) Subparagraph c(4). The requirement to obtain an IFR clearance no farther than 50 nautical miles still is valid. However, it is recognized that this procedure may not

be practical in all situations. If a greater distance is necessary, the certificate holder may apply for a nonstandard paragraph

(3) OpSpec paragraph B051 is for Part 121 and 129 VFR en route operations for propeller-driven aircraft. Paragraph B052 is for certain VFR operations in remote areas. If operating under those paragraphs, certain en route VFR provisions in Part 93, SFAR 50-2, or SFAR 71, the flightcrew may depart VFR under the provision of C077c., except the requirement to obtain an IFR clearance en route does not apply.

F. Terminal Departure IFR Requirements in subparagraph d. It is acceptable if ATC clears the flight to execute a VMC takeoff and climb to a specified point in the clearance as part of an IFR clearance. However, the certificate holder must ensure that the obstacle performance requirements are met. Further, the flight must not depart on a VFR flight plan if the capability to go on an IFR flight plan is evident.

G. Subparagraph e provides special limitations and provisions for all VFR operations. This subparagraph is applicable to all the provisions and limitations of C077.

(1) Subparagraph e(1). In order for the certificate holder or operator to conduct VFR operations under C077, they must have in place either a procedure or program which can identify obstacles and the airport obstacle data. Further, they must ensure use of that information by the flightcrew.

(2) Subparagraph e(2). Although each subparagraph has specific details and minimums regarding VFR, the requirements for sufficient seeing conditions to identify and avoid obstacles is required for all VFR operations.

H. For Alaska Operations. A nonstandard subparagraph (C077f) for certain intrastate Alaskan operations was added. The certificate holder may operate under that nonstandard paragraph provided they qualify under the following requirements. If the certificate holder does not qualify, they will not be issued subparagraph f.

(1) In view of Public Law 104-264, section 1205, and in accordance with section 121.657(a), a deviation was granted from the minimums set forth in section 121.657(b).

(2) That deviation applied only to certificate holders that “transitioned” from Part 135 to Part 121 by March 20, 1997, and only for those operations conducted SOLELY within the state of Alaska (intrastate). Operations specification paragraph C077, subparagraph f, describes the provisions for that deviation, and is controlling.

(3) If a “transitioned” certificate holder applied the above deviation to its operations, paragraph A005 “Exemp-

tions and Deviations” of its OpSpec must reference that deviation for authorization.

OPSPEC C078 - IFR LOWER THAN STANDARD TAKEOFF MINIMUMS, 14 CFR PART 121 AIRPLANE OPERATIONS - ALL AIRPORTS.

A. C078 allows for takeoff visibility with the following exceptions:

- Takeoff operations without runway centerline lighting not less than RVR 1000; and
- Takeoff operations using visual references not less than RVR 500.
- Two new subparagraphs added for the authorization of takeoff with lower than standard takeoff minimums using takeoff guidance systems.
- Further, a new subparagraph was added which contains provisions for pilot assessment of touchdown zone (TDZ) RVR for takeoff when the installed RVR is inoperative.

B. In subparagraph b(2) the touchdown zone RVR 1200 or RVR 1000 authorization can be selected, as applicable. Either the touchdown, mid, and rollout RVR 600 or touchdown zone RVR 500, mid RVR 500, and rollout RVR 500 can be selected for authorization.

(1) Air carriers currently authorized RVR 600 may be approved for RVR 500 operations when changes reflecting RVR 600 have been incorporated into the approved training program. (*Training program not required in Part 125.*) No additional flightcrew qualification, by a check airman or qualified FAA inspector, is required to fly to these reduced minimums provided current flightcrew qualification for lower than standard minimums for takeoff operations utilizes RVR 500 or lower. Both pilots of a two-pilot flightcrew must be qualified for takeoffs using RVR 500 before a flightcrew may conduct such takeoffs. Individual pilots must be trained (Part 121) and checked (Parts 121 and 125) in takeoffs using RVR 500, or lower, before conducting such takeoffs. Pilot qualification must include a flight check including at least one takeoff during each pilot's recurrent qualification cycle in a flight simulator capable of replicating takeoff visibility of RVR 500; and the simulator must be set at RVR 500, or lower, during such takeoffs. (Additional pilot qualification involving a check airman or a qualified FAA inspector is not required.)

(2) Operations below RVR 600 at U.S. airports require appropriate surface movement and guidance control procedures to be in place at the airport.

C. The authorized take off minimums changed from touchdown, mid, and rollout RVR 175 meters to a reported touchdown zone RVR of 150 meters, mid RVR of 150 meters, and rollout RVR of 150 meters.

D. *Pilot Assessment of IFR Lower Than Standard*

Takeoff Minimums. Subparagraph c allows for pilots to make an assessment of RVR when the TDZ RVR is inoperative, is not reported, or the pilot determines that reported TDZ RVR is in error. This assessment, when equal to or greater than that required in the TDZ report for takeoffs made with only outside visual references, or for takeoffs using takeoff guidance systems, can be used for takeoff when the Mid and Rollout reports are available, and are equal to or greater than that required. To take advantage of this possibility, each certificate holder must:

(1) For each runway for which the assessment is allowed, have an FAA-approved procedure for assessing RVR that includes identification of an appropriate number and type of runway lights or markings of known spacing which must be visible to the pilot when viewed from the flight deck with the aircraft in the take-off position. This procedure must include variability of runway light intensity settings and ambient lighting (day or night).

(2) For each runway for which the assessment is allowed, have an FAA-approved procedure for describing the actions to be taken when local visibility conditions, as determined by the pilot, indicate that a significantly different visibility exists from that reported for the TDZ.

(3) For each runway for which the assessment is allowed, have an FAA-approved procedure for coordinating release with ATC and Dispatch.

(4) FAA-approved procedures for RVR assessment, for determining that TDZ RVR reports are in error, and for takeoff and flight release in operating manuals and in such materials which are readily available to the flightcrew in the cockpit.

(5) An FAA-approved training and validation program of the FAA-approved procedures for all flightcrews authorized to participate. Validation of the procedures will be accomplished in an FAA-qualified and approved flight simulator. No flight crewmember may participate in these operations until this portion of the approved training program is accomplished satisfactorily.

E. Subparagraph c provides for the authorization for lower than standard take off minimums using takeoff guidance systems with certain limitations and provisions. Although RVR 500 is the lowest authorized RVR when the takeoff is based upon outside visual references, RVR 300 is the lowest authorized RVR when using a takeoff guidance system.

OPSPEC C079 - IFR LOWER THAN STANDARD TAKEOFF MINIMUMS, 14 CFR PART 135 AIRPLANE OPERATIONS - ALL AIRPORTS-JAROPS BULLETIN. (HBAT 98-24A AND HBAT 99-17 TO BE INCORPORATED).

OPSPEC C080 - TERMINAL AREA IFR

OPERATIONS IN CLASS G AIRSPACE AND AT AIRPORTS WITHOUT AN OPERATING CONTROL TOWER FOR SCHEDULED PASSENGER OPERATIONS. C080 is used to authorize terminal area IFR operations for scheduled passenger operations in Class G airspace or at airports without an operating control tower.

A. Before authorizing scheduled terminal area IFR operations in Class G airspace or at airports without an operating control tower, the POI must obtain and list the following information in C080.

(1) Names of airports.

(2) Sources of weather information to be used by flightcrews (see Order 8400.10, volume 3, chapter 7, section 3, and Order 8700.1, volume 2, chapter 76).

(3) Source of traffic and airport advisories.

B. Sources of Traffic and Airport Advisories. Certificate holders may be authorized to use any two-way radio source of air traffic advisory information listed in the AIM (for operations in U.S. airspace) or equivalent aeronautical information publications (for foreign operations).

(1) These sources include common traffic advisory frequencies, UNICOM, MULTICOM, and flight service stations.

(2) If an air traffic advisory source is also suitable for determining the status of airport services and facilities, it is the only source which needs to be listed in C080.

(3) When airport services and facilities information is on a different frequency, both sources should be listed in C080.

(4) In those cases where two sources are listed at the same airport, inspectors must ensure the operator's manuals have procedures which require pilots to continuously monitor and use the traffic advisory frequency when operating within 10 nautical miles of the airport. The procedures should require communication concerning airport services and facilities to be completed while more than 10 nautical miles from the airport.

(5) At some airports no public use frequencies may be available. In those cases, a certificate holder must arrange for radio communication of essential information including surveillance of local or transient aircraft operations by ground personnel. Ground personnel, who operate a company radio for airport status and traffic advisory, must be able to view airspace around the airport.

C. This operations specification, C080, may need to be issued to the certificate holder authorized scheduled passenger operations in order for the C081, Special Non 14 CFR Part 97 Instrument Approach or Departure

Procedures, to be issued.

D. C080 is not applicable for Part 125 operators.

OPSPEC/MSPEC C081 - SPECIAL NON 14 CFR PART 97 INSTRUMENT APPROACH OR DEPARTURE PROCEDURES. C081 authorizes special non Part 97 instrument approach or departure procedures and is applicable to Part 121, 125/135, 125, and 135 certificate holders.

A. C081 may require the authorization of OpSpec C064 and/or C080, as applicable.

B. Special Terminal Instrument Approach or Departure Procedures. (TBD). (See 8400.10, Volume 4, chapter 2, section 9, Authorization for the Use of Special Terminal Instrument Procedures or contact your regional flight procedures branch for more information.)

C. For helicopter authorization, see OpSpec H122.

OPSPEC/MSPEC C359. SPECIAL AUTHORIZATION FOR CERTAIN CATEGORY II OPERATIONS AT SPECIFICALLY APPROVED FACILITIES. Operations Specification/Management Specification (OpSpec/MSpec) C359 is a special authorization for Category II (CAT II) operations to approved instrument landing system (ILS) runways which do not have touchdown zone (TDZ) and centerline lighting (CL) or CAT II approach lighting systems with sequenced flashing lights (Approach Lighting System with Sequenced Flashing Lights (ALSF)-1 & 2). (For special authorization for lower-than-standard CAT I operations to runway visual range (RVR) 1800, see OpSpec/MSpec C074.)

A. These special authorization CAT II operations at specifically approved facilities with a single RVR reporting system are limited to a decision height (DH) of 100 feet and no lower than RVR 1600. An approved runway facility with two RVR reporting systems will be limited to DH of 100 feet and no lower than RVR 1200.

B. These special authorization CAT II approaches labeled as "Special Aircrew and Aircraft Certification Required" cannot be authorized except in accordance with the limitations and provisions of this OpSpec/MSpec and the following:

(1) Conducted only when using an autoland system or a head-up guidance system (HGS) to touch down.

(2) Only aircraft certified for autoland or HGS to touchdown capability are eligible for these operations. Those aircraft and equipment must be listed in Table 2 of OpSpec/MSpec C059.

(3) Should the autoland system or HGS malfunction or be disengaged during the approach, the pilot-in-command

(PIC) must execute a missed approach not later than arrival at DH.

(4) Pilots must be trained in the use of the autoland system or HGS, as applicable, and demonstrate proficiency in ILS approaches to minimums using this equipment on checks conducted to satisfy Title 14 of the Code of Federal Regulations (14 CFR) part 91, section 91.1069, part 121, section 121.441, or part 135, section 135.297, as applicable.

(5) The certificate holder/program manager must be authorized for CAT II operations and issued OpSpec/MSpec C059.

C. Authorized Airports and Runways.

(1) The approved airports and runways required to be listed in OpSpec/MSpec C359 are those specific facilities that have been approved for these special authorization CAT II operations in accordance with the procedures and requirements in Order 8400.13, Procedures for the Approval of

Special Authorization Category II and Lowest Standard Category I Operations, as amended. Once a facility has been approved and charted in accordance with part 97, it can be listed on OpSpec/MSpec C359.

(2) These special authorization CAT II operations can also be conducted at runways approved for CAT II and CAT III operations under either OpSpec/MSpec C059 or C060 and need not be listed in OpSpec/MSpec C359.

(3) When lighting components, i.e., touchdown zone and runway centerline lights, that are normally required for CAT II or CAT III operations become inoperative, the operations authorized under OpSpec/MSpec C359 may be conducted without having listed those airports and runways in OpSpec/MSpec C359, provided all the requirements of OpSpec/MSpec C359 are met.

85. - 90. RESERVED.

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